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HAROLD S. BUTTENHEIM
Editor
THEODORE REED KENDALL
Consulting Editor
WILLIAM S. FOSTER
Engineering Editor

EDGAR J. BUTTENHEIM
President
ALDEN W. WELCH
Secretary and Research Editor
HERBERT K. SAXE, Treasurer
Major MYRON MacLEOD P. C. FORD
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IN THE MUNICIPAL INDEX AND ATLAS (the annual reference volume of data and condensed catalogs published by the American City Magazine Corporaiton) readers will find statistical material and articles on a wide variety of municipal and public works subjects not published in the monthly issues of the magazine.

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EDDY

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QUONSET POINT — Naval air base.

NEW LONDON — Submarine building.

NEW HAVEN — Guns, ammunition.

BRIDGEPORT — Aeroplane construction.

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WATERFORD, N. Y.

To Expedite Federal-Aid Projects

WPA State Offices Aid Local Communities

PUBLIC officials wishing federal aid in the construction of water, sewerage, hospital, school, or other war public works projects may apply in the first instance to their state or district Work Projects Administration office, according to Brigadier General Philip B. Fleming, Federal Works Administrator and Acting Commissioner of Work Projects. This procedure was decided upon to expedite handling of essential projects.

General Fleming feels that use of WPA field offices in every state to receive applications for war public works projects will bring local communities closer to the war activities of the Federal Works Agency. He said:

"In using the field offices and personnel of the WPA, we are making it more convenient for local public officials, who until now have had to transact business in the first instances with our regional offices, which are few and widely separated. Projects will pass from WPA offices to regional boards and should be in good shape for final action when they reach Washington. It is a further extension of our plan to decentralize the work of the FWA in the interests of efficiency and economy. The WPA may also build some of the projects, but its own program will not be affected materially."

Other Changes in War Public Works Machinery

Besides enlisting the services of the WPA state offices, General Fleming has made other changes in war public works machinery and in the central organization of the Federal Works Agency as follows:

Assignment of Assistant Administrator Baird Snyder to administer all public works projects under the Lanham Act and to supervise the seven Regional Directors with respect to non-federal construction assigned to regional offices.

Abolition of the Regional Engineering Offices of the Office of the Chief Engineer and transfer of personnel, records, and property to the offices of the Regional Directors.

Establishment of Regional Program Review Boards composed of representatives of each constituent unit of the FWA to be designated by the Commissioners of each unit, with the FWA Regional Director as chairman. (The constituent units are the Public Roads Administration, the Public Buildings Administration, the Work Projects Administration, and the Public Works Administration, which is engaged solely in completing its old programs.)

Creation in Washington of a Program and Project Review Board which will advise the Administrator with respect to all programs and projects of the FWA and its constituent agencies, except those as to which specific authority or direction has been otherwise provided by law.

The board in Washington is headed by Colonel William N. Carey, Chief Engineer and Special Assistant to the Administrator. Other members are the Assistant Administrator, the Commissioner of Public Roads, the Commissioner of Public Buildings, the Deputy Commissioner of Work Projects, the Assistant Commissioner of Work Projects in Charge of Community Services, the Commissioner of Public Works, and the Executive Officer of the FWA.

State Administrators

The State WPA Administrators and their office addresses are:

ALABAMA
W. G. Henderson, 326 First National Bank Building, Montgomery

ARIZONA
William J. Jamieson, 1826 West McDowell Road (P. O. Box 431), Phoenix

ARKANSAS
H. C. Baker, Acting, Old Post Office Building, Little Rock

CALIFORNIA (Northern Division)
F. M. Holley, Acting, 49 Fourth Street, San Francisco

CALIFORNIA (Southern Division)
Henry R. Amory, 1206 Santee Street, Los Angeles

COLORADO
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Howard R. Staub, 134 Meadow Street, New Haven

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DISTRICT OF COLUMBIA
J. W. Belcher, Jr., 7th & G Streets, S. E., Washington

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Wilbur E. Harkness, 49 West Duval Street, Jacksonville

GEORGIA
Harry E. Harman, Jr., 10 Forsyth Street Building, Atlanta

HAWAII
Lt. Col. Theodore A. Wyman, Foot of Channel Street, Honolulu

IDAHO
Dean W. Miller, Federal Works Agency Building (P. O. Box 1459), Fairgrounds, Boise

ILLINOIS
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INDIANA
John K. Jennings, 429 North Pennsylvania Street, Indianapolis

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John M. Naughton, 114 Eleventh Street, Des Moines

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KENTUCKY
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LOUISIANA
James H. Crutcher, 805 Canal Bank Building (P. O. Box 1070), New Orleans

MAINE
John C. Fitzgerald, Congress Building, 142 High Street, Portland

MARYLAND
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MASSACHUSETTS
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MISSISSIPPI
Roy Schrader, Acting, Eighteenth Floor, Tower Building, Jackson

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MONTANA
Joseph E. Parker, Old Butte High School Annex, Butte

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James P. Quinn, Silver and Lincoln Streets, Manchester

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Irving Huie, 70 Columbus Avenue, New York City

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Thomas H. Moodie, Bismarck

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SOUTH DAKOTA
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TENNESSEE
S. Tate Pease, 316 Stahlman Building, Nashville

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UTAH
D. J. Greenwell, 304 Newhouse Building, Salt Lake City

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WASHINGTON
Ansel Poundstone, Acting, 422 Alaska Building, Seattle

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Our Municipal Notebook

For Drenching Blazes

NEWARK, N. J., has just installed its first pumping engine with cab. It is a 1,250-gallon American-La France 12-cylinder pumper equipped with 100-gallon booster tank connected with 150 feet of ¾-inch hose. The truck carries 1,200 feet of 2½-inch hose and a 24-foot extension ladder and 12-foot roof ladder protected by a steel hood on the top of the apparatus. It has a Sterling Sirenlite on the hood. There are two lengths of 6-inch suction hose. Newark buys about 10,000 feet of hose a year and likes Fabric fire hose because of the gum-treated feature. For ordinary fires, there are 2½-gallon foam, 2½-gallon soda acid, and 15-pound C-O-Two fire extinguishers, of which the department has 79.

On August 5, the pumping engine successfully passed the four-hour acceptance tests, pumping 1,250 gallons per minute at 120 pounds pressure, 625 gallons at 200 pounds, and 417 gallons at 220 pounds pressure.

Public Safety Director John B. Keenan and Superintendent of Repairs Joseph P. Hackett of Newark, N. J., on the operating side of a new American-La France pumping engine delivered to Newark on August 5. Mr. Hackett has his hand on one of the four discharge valves which control four lines of hose, all from this side of the pumper

Dousing Sparks

THE hand fire extinguisher and the axe have long been familiar to the public, as ornaments along stairways and in public institutions. Were they ever used? Would the extinguisher work if needed? Did the axe have a sharp edge,

In recent years, however, the importance of the hand extinguisher in fire department operations has been brought home to municipal officials, for most ordinary fires are thus handled. Now the hazards from air warfare have further impressed officials and the public with the necessity to have effective and understood hand appliances widely available. Should incendiary bombs fall on a city, the municipal and civilian forces will have to fight with what they have. For the householders, at present, it will be a matter of pails of water, garden hose, sand, and an occasional pump can. For the regular and auxiliary firemen, it will be foam and soda-acid extinguishers, backpack fire pumps, and portable pumps, in addition to the motor apparatus. For fires started by bombs, carbon dioxide and vaporizing liquid extinguishers are serviceable.

This is carbon dioxide gas used to choke elecrical, gasoline, and auomobile fires

Parking Meter Earnings in Schenectady, N. Y.

SCHENECTADY, N. Y., expects to own its parking meters debt free in September 1942, unless present revenues fall off, reports Finance Director Harold A. Root. June receipts totaled $5,051 for the 690 Karparks, which compares favorably with revenues in other months during the last year.

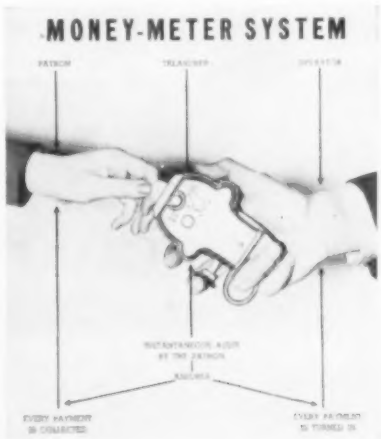
Insurance at Ephrata, Pa.

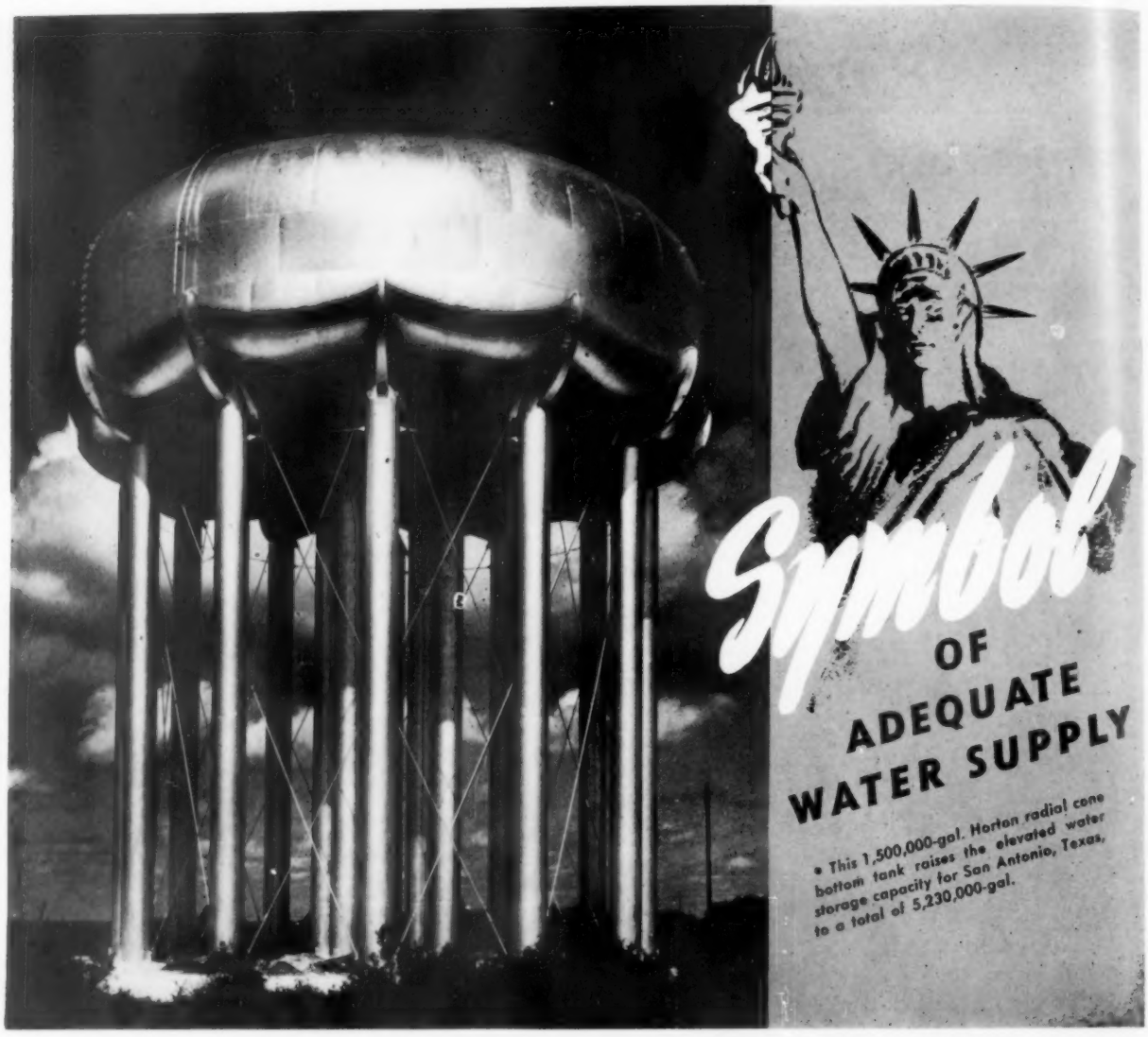
FLEET insurance on all the motor equipment and employer's public liability insurance were renewed on March 7, 1941. The self-insurance plan for workmen's compensation was put into effect on this date. Re-insurance for catastrophe risks in workmen's compensation was written so that all claims in excess of $10,000 for any one accident would not come out of the self-insurance fund. The fund was started with $5,000, of which $4,000 was invested in defense bonds.

The boiler insurance at the electric plant was renewed for a three-year period on April 18, 1941.

Instant Audit with Money Meters

WHEN you push your nickel or dime into a coin meter, such as the one manufactured by Money-Meters, Inc., Providence, R. I., you feel reasonably certain it will reach the owner of the service you have paid for. Moreover, the device removes temptation from the collector. Two obvious applications are on public vehicles and in recreation areas where fees are charged for games or refreshments. Money meters take the place of tickets and those who sell tickets. The difference between the opening reading and the reading at any later time is the amount of money collected. There can be no mistakes. After passing through the meter, the coins are available for making change; thus delays are avoided and crowds are kept flowing.

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ADEQUATE
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• This 1,500,000-gal. Horton radial cone bottom tank raises the elevated water storage capacity for San Antonio, Texas, to a total of 5,230,000-gal.

LIKE a thoughtful people getting their first clear sight of the Statue of Liberty standing at the portals of a great nation, many cities have come to look upon their *large capacity* elevated water storage tanks as comforting symbols of protection for industries and homes alike in time of emergency.

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Why not remember to mention THE AMERICAN CITY?

Wartime Water-Works Notes

Emergency Crews for Bombing Attacks

TO GUIDE the municipalities in New York State in determining the number of emergency crews necessary to care for the maintenance and repair of water works during air raids, Earl Devondorf, Assistant Director, Division of Sanitation, State Health Dept., and State Water Supply Coordinator, has prepared the following table as a guide for municipalities in likely target areas:

Population Ranges	No. of Emergency Repair Crews Needed
less than 2,000	1
2,000 to 5,000	2
5,000 to 9,000	3
9,000 to 14,000	4
14,000 to 20,000	5
20,000 to 28,000	6
28,000 to 34,000	7
34,000 to 42,000	8
42,000 to 49,000	9
49,000 to 75,000	10 to 12
75,000 to 100,000	12 to 15
100,000 to 200,000	15 to 24
200,000 to 300,000	24 to 32
300,000 to 400,000	32 to 40
400,000 to 500,000	40 to 48
500,000 to 600,000	48 to 54

The number of crews, Mr. Devendorf points out, may be reduced by 50 per cent for municipalities not considered in target areas. Isolated communities well removed from possible target areas, he states, do not have the urgent demand for emergency crews. However, each community, regardless of size, should have at least one emergency crew organized and trained.

The organization in the state of Massachusetts calls for the establishment of three additional repair crews for each one now in existence.

A "Priorities Clinic"

ONE of the features of the A.W.W.A. Conference recently held in Chicago was the "Priorities Clinic." This was presided over by John Healy of the Johns-Manville Corp., T. T. Quigley of Wallace and Tiernan, and H. E. Marini of the Chicago Bureau of Water. It continued throughout the entire conference.

In this clinic water-works superintendents presented questions regarding priorities that had been particularly puzzling to them. Many of the questions involved what to do when unable to get materials after filling out the P-46 application. Members of the clinic were of the opinion that generally speaking water-works superintendents showed a rather good understanding of the priorities situation and chiefly needed assurance that they were doing the correct thing.

One of the men answering the questions reported that he was asked what procedure should be followed in regard to certain problems arising from allocation of equipment covering mutual aid. The answer to this was that one should consult the State Water-Works Coordinator.

"I am the Coordinator," the questioner responded.

Village Wins Tank-Maintenance Suit

IN a recent Circuit Court decision, the Village of Dexter, Mich., was awarded damages in a suit covering maintenance work on its elevated water tank. This work was the result of a contract with a Midwestern tank maintenance company to clean, paint, and repair the interior of their overhead water tower. The contract called for cleaning and painting at a lump sum of $265; also for the removing and repairing of defective rivets, and the welding of corroded pits in the tank wall and bottom, payment for this latter work to be at a rate of $1.00 per unit repaired.

Court testimony disclosed that the village had paid one periodic estimate of $1,300 under protest, and refused to pay the final estimate of $4,396.50. In the ensuing suit, testimony showed that 4,198 rivets out of a possible 4,275 had been replaced. Expert witnesses testified that there was no necessity to remove the rivets and that, except in rare cases, the proper procedure is to caulk them. Painting, it was alleged, also was done improperly.

The Village was awarded damages of $411.16.

• • • —

Water-Works Complacency

THE growing opinion among water-works men that the existing water-supply systems will be able to meet the emergency of bombing attacks has recently been scored sharply by Major J. H. Brewster of the U. S. Public Health Service assigned to the First and Second Corps Areas.

"I have from time to time noticed opinions expressed, sometimes even in the technical press, indicating that our water works will successfully withstand bombing attacks because they are designed more strongly than those overseas. I wonder whether these same water-works operators would know what to do if they had to handle from 15 to 20 breaks in their mains of six inches or larger at the same time that there was wide-spread fire fighting going on throughout their city.

Reports on the bombing of Cologne, Germany, by the Royal Air Force, the first of the famous large-scale raids that are typical of modern bombing attacks, state that the water service in this city was completely disrupted for a period of at least one week.

"We can, of course, recognize," Major Brewster states, "that water supplies here are generally stronger and better designed than those in Europe. This is for the reason that most of them are newer and that our water requirements are different. However, this does not mean that they will be invulnerable. In an average 'token' raid, such as our forces delivered to Tokio, we can expect in our average cities considered to be target areas not 15 to 20 breaks, but at least 50 in mains six inches or larger. Water-works men cannot deny that this would result in a temporary failure of a major portion of, or perhaps the entire, system."

Air raids, Major Brewster points out, are increasing in intensity. It is entirely possible that precautions, based on European experience of a year ago, may be outmoded.

New England's Wartime Water-Works Meeting

THE New England Water Works Association has tailored its annual fall meeting, to be held in Boston Sept. 15 and 16, to meet present wartime conditions not only from the standpoint of subjects to be discussed, but also from the scheduling of the place and the length of the meeting.

Planned originally for Poland Springs, Maine, the Association changed the location to Boston because it is more centrally located and convenient by railroad transport.

Technical discussions will be devoted almost entirely to wartime water-works problems.

Longer Rope Life

THE INSIDE STORY

NO MATTER how severe the conditions on construction jobs, you can count on longer, uninterrupted service from your wire rope . . . when you protect it with *Texaco Crater.*

Texaco Crater completely penetrates wire rope, preserving the core, coating each wire in a tough, viscous, lubricating film. It cuts down internal and external wear, seals out moisture, prolongs rope life.

The outstanding performance that has made Texaco preferred in the fields listed in the panel has made it preferred on prominent construction jobs throughout the country.

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★ More Diesel horsepower on streamlined trains in the U. S. is lubricated with Texaco than with all other brands combined.

★ More locomotives and cars in the U. S. are lubricated with Texaco than with any other brand.

★ More revenue airline miles in the U. S. are flown with Texaco than with any other brand.

TEXACO

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FOR ALL CONTRACTORS' EQUIPMENT

HELP WIN THE WAR BY RETURNING EMPTY DRUMS PROMPTLY

Street Maintenance

Street Maintenance in Cincinnati

LABOR turnover in the street department at Cincinnati has resulted in training programs and redistribution of activities within the division. In spite of difficult supervisory replacements, however, maintenance activities have increased by approximately 20 per cent.

One of the important means of reducing lost time has been through a program to promote safety operations. As a result of increased precautions, 421 fewer work days were lost in 1941 than in 1940, amounting to a decrease of 35 per cent of the time lost due to injury. A decrease of 3,300 complaints from last year's total has been noted by the division. This has been achieved by eliminating many of the causes of these complaints. Completion of many sewer, curb, and gutter projects by the WPA has contributed greatly.

J. E. Root is Director of Works. C. E. Brokaw is Superintendent of Highway Maintenance.

SOME OF THE THINGS DONE BY THE HIGHWAY MAINTENANCE DIVISION WHEN NOT "MAINTAINING HIGHWAYS"
170 MILES OF TRAFFIC LINES PAINTED
1100 PARKING METERS INSTALLED
100 TREES, A TRAFFIC HAZARD, REMOVED
17 MILES OF CURBING INSTALLED
16,491 LIN. FEET OF STREET BUTTONS INSTALLED
$27,000 SPENT FOR STREET ABRASIVES

This cartoon appearing in the 1942 Cincinnati Yearbook illustrates the many duties that the Cincinnati Highway Maintenance Division performs along with its regular job of keeping streets in good order

New Rulings for Asphalt and Tar

Restrictions Relaxed Slightly by PRA

PARTIAL deliveries of bituminous materials, with the exception of road oils, are being permitted by the Public Roads Administration. These materials must be used on roads, streets, and highways certified by the Public Roads Administration to be necessary for the successful prosecution of the war. The materials also may be used on the construction or the maintenance of roads if the Public Roads Administration certifies that the use of asphalt or tar products is essential. This is according to a recent bulletin released by the American Public Works Association.

Application Forms

To obtain essential asphalt and tar products, the association points out that local officials should make applications on Form B-1 provided by the Public Roads Administration and submit the applications to their state highway department. Approval also must be obtained for asphalt and for products in local storage.

New Specifications for Asphalt Cements

NEW and comprehensive specifications covering asphalt cements have recently been issued by The Asphalt Institute, 801 Second Ave., New York. These are included in their free construction series No. 64 and are entitled "Specifications for Asphalt Cements."

"These have been prepared after comprehensive study of asphalt cements as they are used throughout the entire country," states Mr. Herbert Spencer, President of The Asphalt Institute. "There have been rather marked divergencies in the specifications that various organizations have used in calling for asphalt cements. The institute has embraced all the good points as well as ruled out all possibility of inferior products in preparing these new specifications."

These specifications are intended to be a part of the manual, "Asphalt Pocket Reference for Highway Engineers," and also to be included with various construction specifications by the Institute.

Salvaging Street Rails at Lewiston, Maine

ONE of the important public works projects conducted last year by the city of Lewiston, Maine, was that of salvaging railroad rails from the defunct Portland-Lewiston Interurban road. These tracks had been out of use for many years and their presence in the street surface had constituted for a long time a dangerous disturbance to traffic.

Tracks were removed and sold for junk. Immediately following this the streets were reconstructed with a grouted brick paving. WPA labor being available for some of this project.

Ft. Wayne Reduces Street-Maintenance Costs

DESPITE increased yardage of asphalt pavements, Ft. Wayne, Ind., has been able to reduce total annual maintenance costs on its streets and still retain the same high quality of paved surfaces. According to a statement issued by W. H. Droege, the total maintenance cost per square yard of pavement in 1941 was $0.006. This represents a reduction of about 22 per cent over 1940 and is the equivalent of $74 per mile for a pavement 20 feet in width. The average age of the pavements maintained is reported at 24.6 years.

IT'S WAR PRODUCTION NOW

Present distribution of Watch Dog Water Meters is of course largely limited now to those users who are engaged in war production. And our own plant facilities are devoted 100% to turning out the meters and other items which will contribute to the winning of the war.

This means that many municipalities and water companies will be unable to obtain all the meters they need for the servicing of residential expansion. It is just one more dislocation of a mode of life that we are all fighting to preserve.

Our Government requires copper for its direct war effort, and has requested water meter manufacturers to use iron for certain parts of the meters, instead of bronze.

We are prepared to meet this requirement and will furnish our line of various size water meters with iron castings and such other parts of iron as specified by the War Production Board.

You will find all parts interchangeable with your present meters of our manufacture and every known precaution exercised to warrant Accuracy, Simplicity and Durability.

WORTHINGTON-GAMON METER COMPANY

282-296 SOUTH STREET

NEWARK, NEW JERSEY

District Offices and Representatives in Principal Cities

WATCH DOG

WATER METERS

V-G2-5

WORTHINGTON-GAMON

Sewerage and Sewage Treatment

Filter Operation at Aurora, Ill.

A UNIQUE and interesting phenomenon was recorded in the operation of the filter stone at the sewage-treatment plant at Aurora, Ill.

During 1941 the upper layers of the stone became abundantly covered with large knots of small earthworm-like organisms. These were originally thought to be the beginning stages of earthworms. However, further investigation by the biologist of the State Sanitary Water Board showed that these worms were a species of lumbriculus which is reported to be prevalent in the Mississippi Valley region and to thrive on dead organic matter.

The appearance of this organic life did not interfere with the operation of the filters. On the contrary, it was observed that the surface stone became quite clean and there was no indication of ponding.

The area of the filters is 3.74 acres. The depth of the stone is 6 feet with 978,650 cubic feet of stone in the entire filters. Interference with the operation of the filters was also occasioned by the presence of small grease balls so numerous as to completely choke the riser pipes. These were hard round balls the size of an average marble. The sprinkler tops had to be removed frequently to have this accumulation blown out.

Operators believe that the source of the trouble can be traced to the accidental overflow of soap grease tanks at a reduction works in the city. They feel that this was caused by the misoperation of valves during the night, causing considerable discharge of this tallow-like material.

The filter beds are divided into four areas. Two dosing chambers control these areas, each chamber being equipped with a lubricating device so that only one separate system is operating at a time on either half of the areas. The beds drain directly into a trough located at one side of the filter wall.

Walter A. Sperry is Superintendent for the Aurora District.

Maintaining Sewers at Reading, Pa.

AN extensive program of sewer cleaning and flushing on the part of the sewer department at Reading, Pa., has resulted in keeping all main trunk lines functioning efficiently during the last year. The department has found the use of its trailer-mounted sewer-cleaning equipment highly effective.

Inasmuch as many of the trunk sewers have of necessity been laid on extremely flat grades, the department has found it imperative to flush these sewers at regular intervals. The department has been using to very good advantage manhole covers padded with patented composition manhole gaskets in place of old worn covers that have caused a nuisance from constant rattling.

Sewerage Facilities for Cincinnati Suburbs

ACCORDING to a recent statement made by the Regional Planning Commission, Cincinnati, Ohio, suburban sewage problems are receiving the attention of the Cincinnati Department of Public Works. This department proposes an eventual metropolitan sewage-disposal district covering an area of 214 square miles around the city—more than half of Hamilton County.

Soil conditions in this area are such that typical sceptic tanks or private sewage facilities do not work effectively. This results in a dangerously unhealthy situation where there is a concentration of suburban developments.

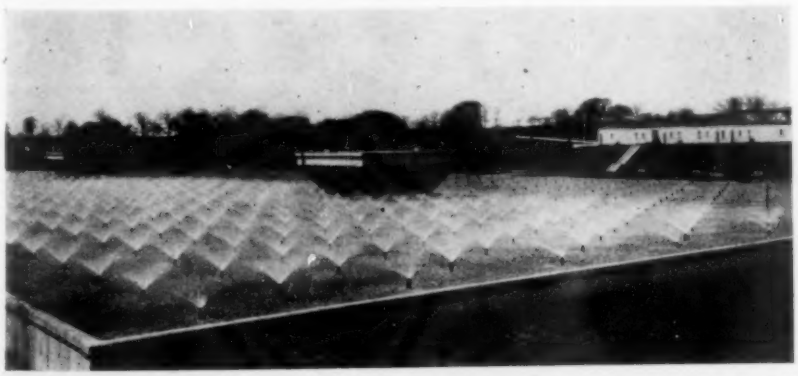
Stressing Wartime Sanitation

THE third annual meeting of the Sewage Works Federation, to be held in Cleveland, Ohio, October 22-24, is being designed to stress wartime sanitation. The program will be exclusively devoted to wartime problems and will offer advice and guidance to operators, superintendents, chemists, engineers, educators, and other public officials who will attend. Among the subjects scheduled for discussion are the impace of war on sewage-treatment problems: the need for short training schools during the present emergency; wartime sanitation problems of the state health departments; and a symposium on sewage-plant maintenance in wartime.

Equipment shortages and material priorities also will come in for attention. The convention will feature an equipment show that will have unusual significance in wartime. Leading manufacturers of equipment and supplies will exhibit their products and give advice to municipal authorities on the care and conservation of existing equipment. Arthur T. Clark, secretary-manager of the Water and Sewage Works Manufacturers' Ass'n., heads the exhibits committee.

The federation will conduct a "Priorities Clinic" patterned after the one that was so successful at the A.W.W.A. conference in Chicago. Leading authorities will give advice and guidance to municipalities.

J. V. Dorr, President of the Dorr Co., will be the feature luncheon speaker, according to W. L. Havens, chairman of the management committee.



Here is a view of the filter beds at the Aurora, Ill., Sewage Treatment Plant where the appearance of the peculiar organic life was noted. This organism was at first thought incorrectly to be a form of earthworm, but it did not interfere with the filter operation and on the contrary seemed to clean the stone and eliminate ponding

Victory Won't Wait for the Snow to Melt!

Armament Plants

Parking Areas

Airports

Every city government, in those cities where war production plants are located, has a definite obligation—*to keep those plants accessible to workers next winter!* Nothing—not even snow and ice—must stand in the way of getting supplies to our fighting forces. Every day counts. A 24-hour tie-up may result in guns, planes or other armament reaching the front one day too late! That snow-bound plant in your city may be making the very parts upon which Victory depends.

There'll be less traffic to beat down the snow, with employees riding together and buses carrying bigger loads, so effective snow removal equipment will be *more necessary this winter* than ever before.

Baker Snow Plows merit high priorities where streets and highways leading up to ordnance and munition plants and employee parking areas must be kept open. Don't get caught with your plants down—get steel releases and buy *now* the Bakers you'll need this winter.

May we send a copy of a booklet on the importance of effective snow removal, titled "Snow—Friend of the Enemy"?

There's a Baker for every snow removal requirement. "V" Plows for trucks and tractors; Reversible Truck Plows that can be angled to right or left with tripping and automatic resetting blades (shown at right); Landside Plows and "V" and Blade Type Sidewalk Plows for wheeled tractors.

THE BAKER MFG. CO.
503 Stanford Ave. • Springfield, Illinois

BAKER

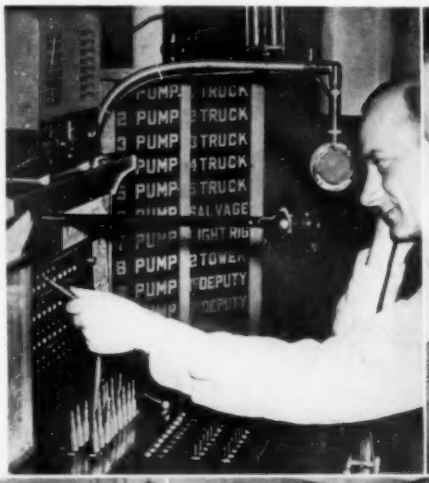
The Modern Tractor Equipment Line for
EARTH MOVING
LEVELING AND GRADE BUILDING
SNOW REMOVAL
ROAD MAINTENANCE

Buy War Bonds and Stamps. Help win the war for FREEDOM.

Public Safety

Action Shots of Manually Operated Fire Alarm System at Utica, N. Y.

Utica's 261 fire alarm boxes have 4-digit numbers instead of 2 or 3 digits. Each box is capable of making 24 attempts to signal as a result of one operation, whereas the older boxes make only one attempt thus providing for the consecutive reception of alarms at headquarters from several boxes pulled simultaneously. In the event of commercial power failure the system will run on storage batteries for 72 hours. A similar Gamewell system serves the police department, with the added feature of a telephone in each of the 56 police signal boxes



IMMEDIATELY AT RIGHT: *Taking a fire alarm over the telephone for transmission over the Gamewell system.* AT FAR RIGHT: *Headquarters transmitter about to send an alarm to fire stations*

IMMEDIATELY AT LEFT: *Superintendent Fred Freymuller adjusting a relay on the headquarters switchboard.* AT FAR LEFT: *The tape on which fire alarms are received*

PHOTOS BY UTICA DAILY PRESS

IMMEDIATELY AT RIGHT: *Testing a fire alarm box.* AT FAR RIGHT: *Overhauling a fire alarm box*

Lined up *against* sabotage and destruction—fighting fire with water. Just as volunteers are called into action when the enemy strikes, so, too, are the guardians stationed underground—the water supply lines of the threatened community. As important as public morale are the strength and quality of your firefighting mains. Can *they* take it?

Never—in the 37 years of its history—has there been a collapse or failure in a single length of Lock Joint Reinforced Concrete Pressure Pipe. Its underlying strength rests in the solid toughness of its concrete walls, in its steel skeleton and in the water-tight flexibility of its joints. Each unit of a Lock Joint Pressure line is a thick-walled bulwark of defense against terrific vibration and shock.

Construction and design make Lock Joint Reinforced Concrete Pipe your safest investment today—yet its manufacture and installation require a minimum of steel and manpower, two vital war needs. Specify Lock Joint!

LOCK JOINT PIPE COMPANY

Established 1905

AMPERE, NEW JERSEY

Denver, Colo. · Chicago, Ill. · Kenilworth, N. J. · Kansas City, Mo. · Rock Island, Ill.
White Plains, N. Y. · Valley Park, Mo. · Cleveland, Ohio · Hartford, Conn. · Navarre, Ohio

SCOPE OF SERVICES

Lock Joint Pipe Company specializes in the manufacture and installation of Reinforced Concrete Pressure Pipe for Water Supply Mains as well as Concrete Pipe of all types for Sanitary Sewers, Storm Drains, Culverts and Subaqueous lines.

LOCK JOINT
Reinforced Concrete
PRESSURE PIPE

Keep Up-to-Date on New Equipment

Please check over the following list of interesting catalogs obtainable free of charge and either write direct to the manufacturers for their literature, or, if you prefer, put a circle around the identifying numbers below to indicate the catalogs you want, mail this coupon to The American City Magazine, 470 Fourth Ave., New York, and we will see that the catalogs are sent to you without expense or obligation on your part.

9-42

372 373 374 375 376 377 378 379 380 381 382
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Name ..... **Position** .....

Address .....

Sewage and Water-Treatment Equipment

372. Have you a water plant or sewage plant project that has been pushed on to you in a hurry because of the victory effort? The Jeffrey Mfg. Co., 970-99 North Fourth St., Columbus, Ohio, is ready to offer technical data on equipment and plant design that will help you make this installation. This company handles a complete line of sewage-and water-treating equipment.

Underground Pipe Installation by Boring

373. Do you know all you should about underground pipe installation? How it eliminates open ditching, avoids lawn destruction, reduces pavement cutting, and overcomes back filling? Are you familiar with the accuracy and control that can be accomplished by this boring and the many formations that it can penetrate? Hydrauger Corp., Ltd., Rialto Bldg., San Francisco, Calif., will send you bulletins on their "mechanical gopher." These will tell you the average cost of boring the holes and will give full instructions and diagrams describing and showing the use of the models that are manufactured.

Rollers for Municipal Use

374. Here is information on a roller designed particularly for municipal service. The Austin-Western Road Machinery Co., Aurora, Ill., will furnish you bulletins on its new Tandem Roller designed so that the operator can work close to the curbs. Visibility-obstructing framework has been eliminated. Controls have been placed conveniently, and a lower center of gravity has been provided resulting in the construction of a roller adapted to the particular needs of municipal street work.

Developments in Water Softening

375. Water-works operators should be interested in Permutit's new Spaulding Precipitator that will enable them to furnish their communities with treated water at marked savings in cost. The free booklet by the Permutit Co. on Spaulding Precipitators gives full details on this equipment which supplants clarifiers in standard lime-soda water treatment. When asking for this booklet write to The Permutit Co., Dept. G3, 330 W. 42nd St., New York.

Sirens for Air Raid Warnings

376. The folder on the Foster siren, issued by the Foster Engineering Co., 109 Monroe St., Newark, N. J., contains information of interest to every municipal official concerned with the selection of sirens for air raid warnings. The bulletin points out that these sirens have a wide range of audibility; that they work fast, reaching their peak in howl in from three to five seconds; that they can be used for signaling service because of sharp sound cut-offs; and that they have but few parts—designed and constructed to withstand the most severe service. The sirens may be operated by remote control either by a separate push-button or as an integral part of an air raid warning, fire alarm, or other signal or coding system.

Cleaning Catch Basins

377. The Champion Corp., 4716 Sheffield Ave., Hammond, Ind., will send you literature on equipment that will clean catch basins quickly and easily. The bucket cleans the catch basin and puts the material where you want it in one operation.

Improved Fire Apparatus

378. Fire departments should have the literature on the new Mack fire apparatus line that will help these departments handle the biggest and most important assignments that they have ever had. This literature includes information on their quadruple pumpers from 200- to 1,500-gallon capacity, hose wagons, city service ladder trucks, squad cars. The company also points out its convenient direct factory branches as a low-cost answer to service problems. Write Mack Mfg. Corp., Fire Engine Division, Long Island City, N. Y., for literature.

Insurance for Municipalities

379. Does your city have an organized insurance program? Do you know whether your municipal properties are adequately covered, or is your insurance program handled piecemeal without regard to the value or appraisals of the property as a part of your municipal unit? Engineers with The Home Fleet of Insurance Companies, 59 Maiden Lane, New York, will help you, without obligation, organize your policies on the basis of periodic studies and appraisals and the analysis of insurance policies available.

Heating Asphalt Quickly and Cheaply

380. The Aeroil Burner Co., Inc., West New York, N. J., has a series of bulletins that will be sent upon request describing the "Heet-Master" equipment. These bulletins, the company points out, are used by leading road and airport contractors. Pick out the ones that will fit your requirements. For the Aeroil "Heet-Master" kettle, bulletin No. 196A; for the cut-back emulsion sprayers, bulletin No. 190A; for oil-burning lead and pipe compound melting furnaces, bulletin No. 176A; portable oil burner and torch outfits, bulletin 174A; asphalt paving tools and accessories, bulletin 312A; asphalt paving tool heaters and asphalt pavement heaters, leaflet 171RT.

Maintaining Street Flushers

381. E. D. Etnyre & Co., Oregon, Ill., will furnish information on maintaining street flushers that should be valuable to every city owning this type of equipment. This company has many valuable suggestions on how to maintain the equipment for the duration.

Low-Maintenance Water Meters

382. Literature will be furnished on request by the Worthington-Gamon Meter Co., Newark, N. J., describing its low-maintenance water meters built to operate accurately year after year.

Filter Plant Operation

383. Important to water-works operators is a new bulletin No. 200 published by the Simplex Valve & Meter Co., 6789 Upland St., Philadelphia, Pa., describing its line of standard Manometers. This outlines details of instruments for the measurement of flow, backwash, and loss of head, in filter plants. It presents not only various types, but also specifications, capacities, and a reference section of useful Manometer data.

Improved Asphalt Distributors

384. Street superintendents have long realized the difficulty of producing asphalt distributing equipment that will shut off the asphalt spray to a true and even line. Distributors made by the Standard Steel Works will eliminate this trouble. Each spray tip has a cut-off valve arranged so that all will close simultaneously across the full length of the bar. There are no uneven lines when this distributor shuts off. There are no heavy or thin spots to cause expensive repairs later. The distributor is constructed in sizes from 600 to 3,000 gallons. Descriptive literature will be furnished by writing Standard Steel Works, at North Kansas City, Mo.

Valves and Hydrants

385. Does your water department know the location and condition of every valve and hydrant in the supply system? Are these valves and hydrants in condition to take care of the increased hazards brought about by the war? M & H Valve and Fittings Co., Anniston, Ala., will send you literature and information on fire hydrants which are dry top and have revolving heads. They are easy to lubricate; maintenance costs are low; they have low friction loss and great efficiency. The Special Traffic model is designed to yield at the ground line under impact, making repairs simple and easy.

(*Continued on page 18*)

Nearby army camps, navy yards, defense industries—all are making increasing demands on city water supplies. How supply all these additional users without greatly increasing municipal expense?

A PITOMETER DISTRIBUTION STUDY

If the existing water system proves inadequate to supply such a huge increase of new users as some cities face, a Pitometer Distribution Study will result in a construction program economical of men, money and materials.

A PITOMETER WATER WASTE SURVEY

will locate hidden leaks and other sources of waste. If waste is eliminated, additional expenditures for new pipe lines, standpipes, pumps, etc., may not be necessary.

THE PITOMETER COMPANY
Water Distribution Engineers
52 Church Street New York, N. Y.

(*Continued from page 17*)

Stretch Your Pumping Dollar

386. A new booklet has been issued by Pomona Pump Co., 206 Commercial St., Pomona, Calif., to assist operators in taking the fullest advantage of the many practical features built into their Pomona pumps. This manual entitled "Stretching Your Pumping Dollar" contains many helpful details giving operators details about features they can ute to obtain still greater service from their existing pumps.

Threaded Cast-Iron Pipe

387. Water superintendents should have the literature furnished by the McWane Cast Iron Pipe Co., Birmingham, Ala., describing ready-to-lay threaded cast-iron pipe. Superintendents who have used this pipe state that it can be laid much faster and with greatly decreased labor costs. They report that unskilled labor can quickly lay this pipe which is furnished in sizes from 1½ inch through 12 inches.

Maintaining Aluminum Reflectors

388. Are you taking the proper care of the Alzak Aluminum Reflectors that you obtained during the pre-war days? Grime that gathers on these reflectors can play havoc with the efficiency of your lighting system. Their proper maintenance depends upon the condition under which they serve. To obtain help on this subject, send for the booklet "Instructions for the Protection and Maintenance of Alumilite Finishes and Alzak Reflectors" furnished by the Aluminum Company of America, 1945 Gulf Bldg., Pittsburgh, Pa.

Wartime Pipe Culverts

389. The Armco Drainage Products Ass'n., has developed a new pipe of interlocking wood construction that is of semi-flexible design yet light in weight and easy to handle. This culvert pipe is their answer to the problem of furnishing adequate drainage without using material essential to the victory effort. It is intended to outlast the 5- to 10-year period for which most emergency construction now is being built. On permanent installations, corrugated metal pipe may be threaded through or jacked around the wood structure without disturbing the road surface. For full information, write The Armco Drainage Products Ass'n., 735 Curtis St., Middletown, Ohio, and ask for the bulletin entitled "How to Solve Wartime Drainage Problems."

Iron Cased Meters To Save Water

390. The importance of saving water for critical wartime needs adds to the value of universal metering. The new bulletin by the Buffalo Meter Co., 290 Main St., Buffalo, N. Y., entitled "Using your Buffalo-Made Water Meters to Best Advantage in Wartime" will help you make this saving. Where unmetered water supply is inadequate, meters will stop waste at lower cost and with the use of less critical material. The Niagara Meters are, and have always been, in step with the times in regard to saving critical materials. Their casings have always been made of cast iron. The manufacturer points out that the same fine accuracy of measurement is still provided.

Automatic Priming Pumps

391. Do you want information on self-priming pumping systems? The De Laval Steam Turbine Co., Trenton, N. J., will send you a publication P-2536 giving you information on this subject. Automatic priming will help you guard against damage resulting from possible obstructions in the intake line, loss of prime resulting from the accumulation of air or air in leakage, and all possibility of dangerous water-hammer reaching the pump casing. It also allows for the pumps being started and stopped from a remote control point.

Leak-Proof Mechanical Joints

392. Here is a mechanical joint for cast-iron pipe that should interest water-works superintendents. The Carson-Cadillac Co., 1221 Pinson St., Birmingham, Ala., will send you illustrated literature on their Carson clamps and mechanical joints made of corrosion-resistant cast iron that the manufacturer asserts will last as long as the pipe itself. Glands accommodate variations in pipe dimensions and insure uniform compression of the gasket.

Steel Swimming Pools

393. Is a swimming pool included as part of your post-war construction program? The Pittsburgh-Des Moines Steel Co., 3412 Neville Island, Pittsburgh, Pa., will send you bulletin No. 402 giving you details on the construction of a steel swimming pool. This pool, they claim, is low in first cost, of improved appearance, and easily maintained. The company also points to permanent water-tight, frost-proof characteristics.

Easily Maintained Fire Hydrants

394. Water-works men appreciate the good features of the Eddy hydrants. A damaged valve can be replaced in a few minutes at slight expense. All hydrants are frost-proof. These and other advantages offered by the hydrants are explained in the catalog furnished by the Eddy Valve Co., Waterford, N. Y.

(*Continued on page 19*)

(*Continued from page 18*)

Complete Sewage-Treatment Service

395. The new bulletin entitled "Sewage Equipment," published by the Graver Tank & Mfg. Co., Inc., 4809-13 Tod Ave., East Chicago, Ind., will be of interest to city officials studying sewage treatment as a part of their long-range planning program. This bulletin gives information on complete sewage-treatment plants covering the trickling filter system, high rate filtration, and activated sludge. It also outlines developments made by this company on floating covers for gas storage necessary for the operation of gas engines and waste heat boilers.

Sterilizing Water Mains

396. Emergency main sterilization is a feature of a new booklet issued by Wallace & Tiernan Co., Inc., Belleville, N. J., entitled "Sterilizing Water Mains." This booklet outlines a complete, easily understandable procedure giving facts that every operator should have at his fingertips. It also discusses various methods of chlorination, using chlorine directly or in some of the various compounds.

Maintenance through Performance

397. The Peerless Pump Division of the Food Machinery Corp., 335 West Ave. 26, Los Angeles, Calif., has literature on the wide range of pumps it furnishes that should be of interest to every water-works man. Many of the firsts in water lifting are Peerless innovations. This company is not only ready to send literature but will be glad to give you complete information on pumping problems without obligation.

Fence for Plant Protection

398. Do your municipal plants have adequate protection against unwarranted trespassers? The new catalog 1-41 issued by The Stewart Iron Works Co., Inc., 921 Stewart Block, Cincinnati, Ohio, covers full details on fences for protection.

Ways to Conserve Copper

399. "There is not enough copper to go around," states the new booklet issued by the General Electric Co., Schenectady, N. Y., entitled "5 Ways to Conserve Copper." This booklet goes on to explain methods that should assist municipal electric plant operators to locate substations, distribute power, and use cable as efficiently as possible.

Training for Municipal Positions

400. The Institute for Training in Municipal Administration, 1313 East 60th St., Chicago, Ill., will send you a special circular describing the 10 practical correspondence courses that it offers for the training of municipal officials in various specialized departments. These will help train understudies for certain vital positions as well as assist younger inexperienced men to prepare themselves for better municipal positions.

Motorcycle Police Protection

401. The Harley-Davidson Motor Co., Milwaukee, Wis., will furnish your police department with valuable assistance covering the added duties of efficiently protecting vital war industries along with the demands of increased traffic control. Information from this company points to the increasing number of cities whose police forces are 100 per cent Harley-Davidson equipped.

Quality in Water Meters

402. As present wartime conditions continue, the importance of quality of workmanship is increasingly emphasized. Prices no longer can be the sole criterion. For more than half a century many water-works officials have realized the quality of craftsmanship in Hersey meters resulting in accuracy and low-cost maintenance. In helping you solve your water-works metering problem write for literature to the Hersey Mfg. Co., South Boston, Mass.

Two-Cycle Diesel Engines

403. Bulletin 92 issued by the Nordberg Mfg. Co., Milwaukee, Wis., gives a thorough analysis of the two-cycle diesel engines that this company has furnished to so many municipal electric plants. The bulletin gives a clear and comprehensive analysis of the operation of these engines that will be interesting not only to the municipal operator unfamiliar with diesel engines, but also to the operator experienced in handling them.

Artificial Respiration

404. Fire and Police departments will be interested in the new folder on the Fox Model "K" resuscitator, inhalator, and aspirator. The folder describes this unit as light in weight, durable, and efficient, employing the same principle of automatic resuscitation by an alternating sequence of fixed positive and negative pressure. The company points to the successful application of this unit in thousands of desperate cases. Write to The E & J Mfg. Co., Box 565, Glendale, Calif., and ask for their folder entitled "E & J Resuscitator, Inhalator, and Aspirator."

LIGHT FOR SOLDIERS IN White
. . . with Small Gasoline Motors
"Adequate" lighting at the front line, or wherever electric service is not available, can often mean the difference between life and death. How vital then, are the portable "lighting" units, powered by Briggs & Stratton 4-cycle, air-cooled gasoline motors, used by our armed forces. Their trouble-free performance affords dependable power wherever and whenever needed.
Our entire resources are now devoted to supplying Briggs & Stratton gasoline motors, to those whose equipment serves the war program, or is for "essential" civilian uses.
If you're now planning post-war production of gasoline powered appliances and equipment, or if your products fit these classifications, write us and we'll serve you as best we can.
Meanwhile Briggs & Stratton motors (⅔ to 6 HP.) now in civilian use, continue to set new records for trouble-free performance and long life. With reasonable care, their service can be still further prolonged.
BRIGGS & STRATTON CORP.
Milwaukee, Wisconsin, U. S. A.
BRIGGS & STRATTON

BADGER *Presents* THE "MARS" LINE OF METERS

TO SAVE METALS TO HELP WIN THE WAR

When Uncle Sam said, "Bronze can no longer be spared for water meter housings, because it's a critical material needed for Victory production," Badger was ready with the "Mars" line of water meters. Made with tough, durable, cast iron housing thoroughly protected from rust and corrosion. Its bronze mechanism incorporates the same principles that have made Badger outstanding for accuracy, dependability and sensitivity for over 37 years. By a careful combination of metals in mechanical parts, the "Mars" line of meters saves the maximum amount of bronze and loses none of its durability.

Badger's 37-years experience in manufacturing dependable, accurate, sensitive, durable water meters is drawn upon in the design of the "Mars" line of meters. It deserves your confidence.

BADGER METER MANUFACTURING COMPANY, Milwaukee, Wisconsin

BRANCH OFFICES: New York City · Tampa, Fla. · Seattle, Wash. · Savannah, Ga. · Kansas City, Mo. · Marshalltown, Iowa Waco, Texas · Los Angeles, Calif. · Chicago, Ill. · Philadelphia, Pa.

KEEP 'EM SERVING AND SAVING

Conservation of water meters is a patriotic duty. Careful maintenance and repair will reward you with extra years of accurate, dependable operation.

Vol. LVII, No. 9 The American City September, 1942

To Reduce Wartime Fire Losses

EACH year at this time Fire Prevention Week approaches with a fanfare of publicity, and in October departs with a bag of new accomplishments. The President of the United States in his accompanying proclamation sets this year's thrice-important objective of lives, materials, and time saved by fire prevention. Civilian Defense Director James M. Landis stresses the importance of fire safety in speeding production. What to do and how are ably and dramatically set forth in the Fire Prevention Week Handbook issued by the National Fire Protection Association, 60 Batterymarch Street, Boston, Mass.

Fire prevention obviously is a 365-day-a-year job. The Big Week calls nation-wide attention to the importance of the daily fire department routine which gets the real results. Routine, however, can usually be improved. Austin, Texas, for instance, has just done it, according to the International City Managers' Association. Three booster trucks, equipped with radio and first aid materials, patrol the three fire prevention districts of the city 24 hours a day every day. These big-fire prevention trucks can handle ordinary fires, thus reducing wear and tear on the first-line pumping engines, aerials, and city service trucks.

By the President of the United States of America

A Proclamation

Any loss of human life, any interference with production, any loss of critical materials hinders and impedes our war effort.

Uncontrolled fire, even in normal times, is a national menace. It kills or disables thousands of our people and destroys a significant portion of our national wealth each year. Today, when every machine is being taxed to its fullest productive capacity, when new hands are working with unfamiliar tools, and when agents of our enemies are seeking to hinder us by every possible means, it is essential that destructive fire be brought under stricter control in order that victory may be achieved at the earliest date.

Nothing less than the united vigilance and effort of all the people will suffice to break the grip of this menace. Fire hazards everywhere must be detected at once and eliminated. Loss of life and property from blaze and smoke must be reduced in every State of the Union. Prevention of all uncontrolled fires must be our goal.

NOW, THEREFORE, I, FRANKLIN D. ROOSEVELT, President of the United States of America, do hereby designate the week beginning October 4, 1942, as Fire Prevention Week; and I earnestly request the people of the country to give special heed to the importance of taking active measures during that week, and throughout the year, to conserve our human and material resources from the destructive toll of fire; and I direct the Office of Civilian Defense and other appropriate Federal agencies to initiate programs for emphasizing the importance of attaining these objectives. I also desire to enlist the cooperation of State and local governments, of educators and civic groups, and of the press, the radio, and the motion-picture industry, with a view to promoting widespread realization of the dangers of fire and knowledge of the methods of controlling it.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the United States of America to be affixed.

DONE at the City of Washington this 5th day of August in the year of our Lord nineteen hundred and forty-two, and of the Independence of the United States of America the one hundred and sixty-seventh.

By the President: Franklin D. Roosevelt

Cordell Hull
Secretary of State

More and more fire departments are helping to educate the local citizenry in fire control at home. In Cincinnati, the Fire Prevention Bureau produces radio programs on all phases of fire safety. Cities as varied in size as Fort Collins, Colo., and Milwaukee report demonstrations of the use of hand extinguishers. By such activities, fire departments are taking their rightful place in public education.

Watchdog Reduces Cost of Water-Works Protection

Great Dane Dog Supplants the Use of Armed Guards in Protecting Vital Water-Works Points at Auburn, Me.

OPERATORS of municipal utilities who are faced with the problems of guarding and protecting their properties and keeping costs within reasonable limits will be encouraged by the experience that the Auburn, Me., Water District has had.

This district uses a Great Dane dog to assist in the protection of its vital pumping-plant equipment. Auburn officials decided on the use of this dog, drawing from the experience that they had in the last war. They recall that the quality of men available was very poor.

"After hiring one man," stated H. J. Cook, Superintendent of the Auburn Water District, "it was almost necessary to hire another to keep the first one awake."

On Job 24 Hours a Day

The operator and his family live in the house at the pumping station. The dog serves as a supplemental guard for the operator, who is deputized and armed. The dog is now a year old, stands 36 inches high, and weighs 150 lbs. Mr. Cook states enthusiastically that the dog is on the job 24 hours a day and all he asks is board and room. No one goes near that station without first telephoning to have someone hold the dog. The cost of the dog to date, including his maintenance, has been $139.21.

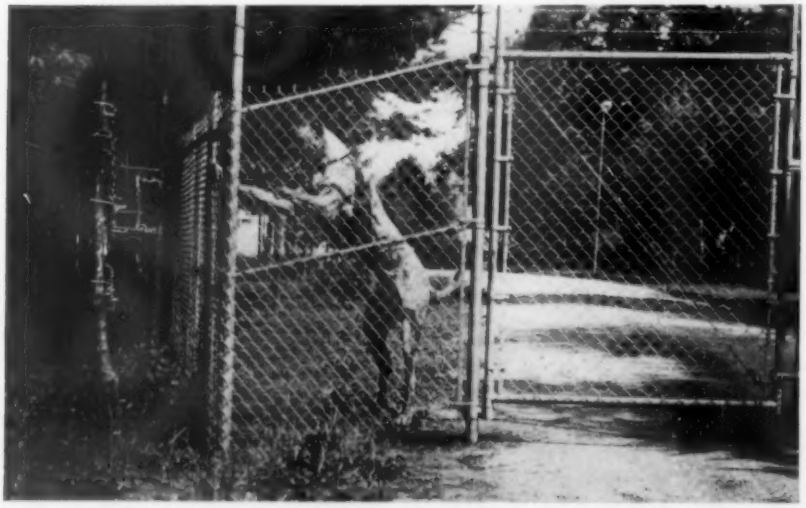
Major J. H. Brewster, of the U. S. Public Health Service, assigned to the First and Second Army Corps Areas, heartily endorses this method of protecting vital points on a water-works property, particularly for a small utility.

"Basically," he states, "the value of the dog is in his reliable ability to create an alarm. You don't necessarily need a large dog to do this; however, a big dog will certainly discourage intruders effectively. Conversely, a small dog will be more difficult to hit in the event a saboteur should try to shoot him."

Major Brewster states that the army intelligence has expressed approval and encouragement for the use of any of the automatic methods of detecting intruders such as an electric eye, alarm devices on fences, or similar equipment to supplement actual guards that can be used more profitably elsewhere. The use of dogs, he believes, while perhaps not applicable in the larger plants, should furnish the small plants with highly efficient guards at low cost.

Under the present arrangements, the weekly costs for guarding the pumping station and the reservoir at Auburn are as follows:

Watchman two evenings and every other Sunday, when the operator has time off	$6.00
Keep of dog—average	2.00
Total cost	$8.00



Here is a watchman for the Auburn Water District who is on the job 24 hours a day. He helps to guard the vital pumping station furnishing water for the district. His expense to the district amounts to $2 per week for food. He gives constant service, eliminating the need for additional personnel. The station is surrounded by a 7-ft. woven-wire fence topped by 3 rows of barbed wire. In the background, one of the floodlights may be seen that is used to light the entire grounds in case of suspected intruders

Other Measures

Protective measures in this district, of course, go much further than this. A heavy, nine-guage, American Chain Link woven wire fence, seven feet in height, supplemented by three strands of barbed wire, surrounds the pumping station and the operator's house. Westinghouse floodlights, strategically located, make it possible to illuminate every foot of this fence if necessary. These lights are used only in case of unwelcome visitors at night.

Nearly a year ago an additional standpipe holding 300,000 gallons was constructed in a detached area of the city to improve fire service. The total cost of this was $11,594.81. Many additional gates were cut into the existing mains in order to decrease the size of the areas

shut off in case of trouble. Emergency chlorinating equipment has been supplied to sterilize mains and otherwise provide for the furnishing of pure water immediately after an "incident."

Conspicuous Structures Removed

Conspicuous structures such as gate houses or mounds over gate manholes were removed. The telephone line to the pumping station was put under ground. An inventory of stock and equipment was made to assure that strategic supplies could be assured.

Immediately after the news of Pearl Harbor, an armed guard was placed at the station during the times that the operator was not present. The operator, the watchman, and the dog act as a guard constantly at this point. The Auburn Water District is fortunate to have an observation post at the reservoir, established by the civilian defense organization. This results in having two people always on duty there.

Defense Training

Early in 1941 the Maine Water Utilities Association, under the sponsorship of the University of Maine, conducted a school of "Defense Training for Water-Works Operators." Among the speakers were E. Sherman Chase of the firm of Metcalf and Eddy, Prof. George E. Russell, Massachusetts Institute of Technology, Mr. P. Charnock, New England Insurance Exchange of Boston, Prof. Gordon Fair, Harvard Graduate School of Engineering, Robert Spurr Weston of Weston and Sampson, Boston consulting engineers, and several others of equal prominence. All employees of the Auburn Water District were required to attend the lectures and demonstrations.

Pearl Harbor Anticipated

One statement was made by almost every speaker: that sooner or later the United States would become involved in a second world war. Professor Russell was very emphatic on this score and prophesied Pearl Harbor over eight months before the attack occurred.

Water Service Extensions Using Redwood Pipe

A "Non-Critical" Installation at Atlanta, Ga.

HERE is an instance when it paid to save material that many operators would consider obsolete. Savannah, Ga., is now cashing in on the economy and foresight of its water-works superintendent, Louis A. East, who for 19 years has been storing some salvaged redwood water mains that most operators would have discarded long ago.

In 1923 the government abandoned and junked a picric acid plant at Brunswick, Ga. There were approximately 40,000 feet of redwood pipe left over and stored that had never been installed in this plant. The city of Savannah at that time bought 3,600 feet of the 6-in. pipe with lengths averaging from 6 to 20 feet and stored it in warehouses where it was kept thoroughly dry.

In Sound Condition

Recently the city was forced to make an extension of its water-works system to a cemetery. In view of the present shortage and the critical condition of water pipe in general, Mr. East decided to examine this wood pipe to see if it was still serviceable. After making a thorough inspection, he found that a large part of it was as sound in every way as it was on the day it was purchased. He has now placed 2,500 lineal feet of it in two separate lines. He states that after equipping it with the regular standard cast-iron fittings and giving the pipe proper time to swell, it was absolutely as tight as any bell and spigot caulk joint or cast-iron pipe.

"Not even sweat comes through any of the seams of the joints," states Mr. East.

Construction

The construction procedure, using cast-iron fittings in the pipe, was to pour lead joints between the wood and the cast iron in the same manner as one would pour any ordinary lead joint on the standard cast iron. After the joints were poured the runner was immediately removed and the joint cleaned off, especially at the top where the lead overflowed. Instead of caulking the joint, Mr. East put a coat of "Smooth-On" on each joint, which he believes adds to its strength.

These mains will carry a water pressure of 50 pounds.

Louis A. East, Supt. of Water Works, Savannah, Ga., supervises the installation of some redwood water mains which have been stored in the city's yards for the past 19 years. This pipe when installed correctly and allowed to swell has shown extremely good serviceability, easily carrying the 50-lb. pressure maintained in the Savannah system. Cast-iron valves and fittings are used to connect the pipe

Historic County Modernizes Its Fire Insurance

By C. F. Nelson Pratt
Chairman, Essex County Commissioners
Salem, Mass.

EARLY in 1941 the Board of County Commissioners of Essex County felt that the fire insurance program for the county properties needed a complete review to bring it under a "streamlined" plan. After numerous meetings with local agents, company representatives, and insurance engineers, it was decided to select a committee to supervise this work, the chairman being a representative of The Home Insurance Company, New York.

The properties consisted of the 30 buildings of our Agricultural School in Hathorne, 20 buildings of the Industrial Farm at Middleton, 17 buildings of the Essex County Training School at Lawrence, our exceptionally fine Tuberculosis Hospital, the Essex Sanatorium at Middleton, Registry of Deeds at Salem, the court houses at Lawrence, Newburyport, and Salem, and the county jails in Lawrence and Salem, with the usual incidental properties connected with them.

Previous boards had secured fire insurance protection on a portion of these properties, and at the start of hearings our policy portfolio consisted of some 200 insurance policies, utilizing four different schedules covering the agricultural school, industrial farm, training school, and hospital, with numerous individual buildings having specific policies. Most of these policies were for odd amounts, various terms, a multiplicity of expiration dates, and different coinsurance requirements. To keep an accurate record of our fire insurance required considerable time and labor in checking by several members of our office staff. In addition to the premiums we were paying for insurance, substantial expense was involved merely in this tremendous amount of detail work.

A complete survey was made of each individual building and, after a few conferences with our county board, recommended amounts of insurance were submitted for the buildings. Each department head was then requested to submit to the Board a detailed inventory of the contents of the various buildings under his supervision. A tentative schedule was prepared, based upon the accurate values thus arrived at, and after another joint conference recommendations for improvements to the properties were made to reduce the possibility of fire hazard or the jeopardizing of the lives of the students or patients. All feasible suggestions were carried out and the fire-insurance costs were substantially reduced.

The County Commissioners feel that the present fire insurance program furnishes to the inhabitants of Essex County the best available fire insurance protection that can be secured. There is a total of insurance on buildings, from the largest to the smallest, of $3,054,850 and on contents, $445,150. We have a complete schedule covering all property, real and personal; all policies are concurrent as to forms and clauses; the schedule is set up under the five-year stagger plan, with one-fifth of the entire schedule coming up for renewal each year at a constant annual cost, and the total detail in our office reduced considerably. In addition we will receive from the reputable insurance companies carrying the insurance, a complete annual survey of all our properties, the automatic inclusion of any newly acquired properties, and the benefit of any possible rate reductions to further lessen the costs of our fire insurance protection.

To appreciate fully the scope of this modern fire insurance program, it may be helpful to know something of the 514.43 square miles forming the northeast tip of Massachusetts. Within it are eight cities and 26 towns, eleven of them in-

Essex County Agricultural School at Hathorne, Mass.

corporated in the 17th century, the most recent in 1876. The first settler was Roger Conant who established a fishing company in Gloucester in 1623. Later, he moved to Salem where, in 1627, he founded the first permanent settlement in Essex County. For years, Salem was the leading town in Massachusetts and today it is the county seat.

Essex County embraces many industries. Early in its history, iron was discovered in Saugus, where the first fire engine in the United States was built. Lynn was settled in 1629 and became the great shoe city and one of the centers of the internationally known General Electric Company. Haverhill, noted for boots and shoes, was settled in 1640.

Danvers was the early home of the tanning industry in which Peabody and Danvers are leaders. Cape Ann has furnished granite for public building and construction work all over the United States, and the mere name of Gloucester brings visions of fishing and salt fish. Newburyport was the home of many New England sea captains of the last century. The whole North Shore, from Cape Ann to Manchester, Beverly, Swampscott, including Marblehead and Nahant, is known as the summer playground of New England. Inland are agricultural North Andover, Topsfield, Groveland, Georgetown, Hamilton, and Wenham, and the many farms which amply explain Essex Aggie, now 29 years old, operated by the county. Hundreds of leaders in industry and education were born and trained here where three-quarters of a million people live.

The Fire Insurance Project

Of a county with hundreds of years of American history, and with industries ranging from the great General Electric transformer and sodium-vapor lamp works at Lynn to the fishing smacks of Gloucester, one is sound in expecting that when the important matter of radically revising the county's fire insurance program is undertaken, the job is seen through to a noteworthy finish. The old insurance setup was part of the county's history. The streamlined program is distinctly of the present and future. The objective was complete coverage without waste.

Essex County Tuberculosis Sanitorium

Our present total of $3,500,000 fire insurance on county buildings and contents is $1,506,450 more than under the old program. As a result, the amount of coverage was increased 75.5 per cent with a cost increase of only 25.8 per cent.

Each structure is insured in accordance with its actual exposure, for no more or less than it should be, and the correct rates are applied in each case. Particularly satisfactory is the clause which automatically insures newly acquired county properties. With all the former clerical drudgery, it was quite possible to overlook vital details in the abstruse field of ancient municipal insurance. Our present plan and procedure are clear and simple to follow. Even more important, the attaining of all these economies has undoubtedly made our county institutions safer and our own stewardship better.

Junior Chamber Sponsors City Government Study

TO AROUSE citizen interest in civic affairs and promote understanding of problems facing the officials of Logan City, Utah, the Logan Junior Chamber of Commerce recently sponsored and financed a study of that city's government set-up and administration. Results of the study, which was made by G. Homer Durham, Ph.D., Instructor in Political Science, Utah State Agricultural College, were published by the junior chamber in the pamphlet, "Municipal Administration in Logan City, Utah."

The study was financed from the general fund of the local organization, except for a small amount which had previously been earmarked for the promotion of legislation. Although the project was not attempted as a profit-making venture, it was hoped that sale of the pamphlet at a nominal price would decrease the original cost. To date, however, only a minor part of the cost has been retired.

The study, essentially of a fact-finding and informative nature, analyzes Logan's government organization and functioning and makes recommendations for improvements. It has been given wide publicity, and has been brought to the attention of interested groups in the city. We are planning now to re-emphasize the findings of the report in anticipation of the coming municipal elections. The Junior Chamber of Commerce has not felt that our local government has need of any over-all reform, but we do hope that as a result of the study, interested individuals and groups will eventually effectuate a realignment of the governmental structure along a more efficient working basis.

ARTHUR D. SMITH,
President.

Electric Service As a Municipal Business

Although Oglesby, Ill., does not generate its own electric power, it does own its distribution system, buying the power wholesale. Sound business principles and shrewd operation have made this a fine community asset

By Edward Hand
City Clerk

OGLESBY has been in the electric utility business since electricity came into general use. We do not produce our own power; we own the distribution system and buy the power wholesale. This does not mean that we are holding a brief against those municipalities that have shrewdly studied their particular conditions and have concluded that they can generate electricity cheaper and more efficiently than they can buy it. If we, also, were convinced of this, be assured that we too would have an attractive municipal electric plant with powerful, smooth-running diesel engine generators.

With the arrangement that we have, can we offer our people a service that is attractive and growing in value?

Look at our record. During the past ten years, we have lopped 44 per cent off the average price for electricity to our consumers. In 1932, the department sold 466,053 kwhr to all classes of our consumers for a total sum of $34,151.27, or an average of $.0732 per kwhr. In 1942, with less than 10 per cent increase in meters, we sold 1,494,767 kwhr for $61,233.03, or an average of $.049.

Business-like Program

How was this done? In several ways.

First, a competent consulting engineer who had made a specialty of electric distribution redesigned our system eliminating waste and loss, cutting out excess transformer capacity, and showing us the difference between bad practice and good. Next, a conscientious superintendent carried out the consultant's recommendations and, at the same time, kept constantly at the other many details of his job. The writer did the billing and collecting, centralized the purchases, and performed the bulk of the promotional work.

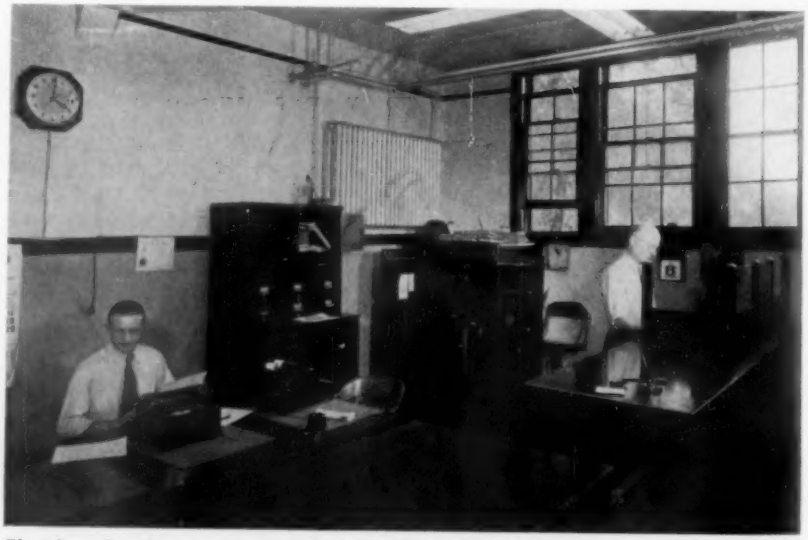
Finally, and undoubtedly the most important from the standpoint of long-time operation, has been our absolute freedom from politics. Not once in this decade through three administrations have we had political interference. The city council has cooperatively adopted ordinances that sound business judgment and good practice would dictate and has given the department wholehearted support as we enforced them. Violators were treated fairly and impartially. We do not wish to argue against the use of special utility boards or commissions. In many places, they serve as a valuable safeguard against political interference; however, we have not had to use them in Oglesby.

Any sound businessman recognizes the value of low labor turnover. We feel that it is significant that our key men, including the elected commissioner, have had an average tenure of service of 11 years. Even more significant is the fact that their average age is only 38. They are all receptive to new and progressive ideas. The city council also is comparatively young. Our consultant is young and aggressive, and enjoys a wide practice throughout the Middle West.

We buy all our electric energy on one meter at a substation at the city limits. During the last fiscal year we paid an average of $.01226 for 2,038,000 kwhr for all purposes. We sold 73.3 per cent of that amount, donated 9.7 per cent to the water department, 8.4 per cent to other municipal departments including street lighting, and were able to keep our distribution losses down to the low figure of 8.6 per cent. Wholesale power contracts are never signed for longer than five years.

Utility Earnings

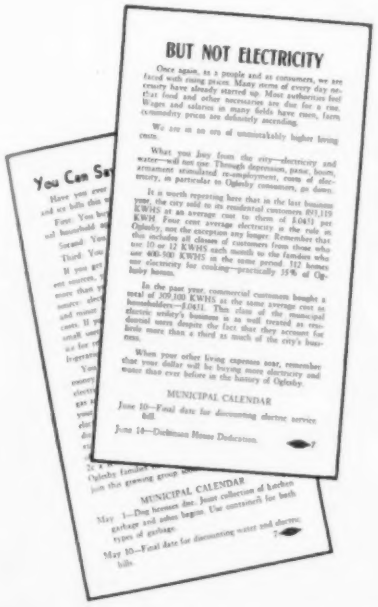
Last year our operations netted a profit of $22,964.27. Not in years, despite the fact that we have



Electric and water consumers transact their business with the city in this corner of the City Hall. Mr. Hand, the City Clerk, is standing at the right, while his assistant is seated at the typewriter on the left

had 12 major rate reductions, has our utility failed to show a substantial income. We term it net profit; our auditors, who are certified public accountants, are a little scornful of the fact that we term it so. As serious students of classic bookkeeping they are entitled to their opinion. However, we can make some slight claim to an opinion also. After all, the continuing responsibility for this utility rests basically upon us.

We admit that we do not reserve a fund for depreciation. We make provision annually to keep our system in first-class condition. The condition of every item of it is known first-hand by our superintendent and his assistants. We make, and are able to finance, capital outlays from current revenue. The accountants' practice may be good bookkeeping, but we see no reason for computing depreciation as an expense.



Here are two of the promotional pamphlets that the Oglesby utility includes with every bill it sends out. The aggressively written little leaflets contain hard-hitting arguments for the increased and efficient use of both water and electricity in this city. Note also newsy municipal calendar at the bottom of each sheet

Similarly, we make no provision for the free service that we furnish the water department and other municipal departments. The accountants would like to have us make a credit entry of some amount and cancel it with a debit entry, but we do not go to that trouble. Granted that this would be excellent practice in some places with complex systems, our method works nicely in Oglesby.

We like to furnish our customers with the most modern and up-to-date service possible at moderate rates equal to or more attractive than those offered by other utilities in the area. We believe that we are doing this and feel that our record supports our contention.

As an example, five years ago, the city utility had a dozen electric range consumers. At this writing we have 400, or more than 40 per cent saturation. A global war was the only thing that stopped this growth. We expect to stay at or near the 400 figure until range manufacturing and selling is permitted again.

Rates

Our so-called optional range rate has had enormous appeal to potential range consumers. Under its terms, the consumers receive 100 kwhr for $4 net or $5 gross (10 day discount period) with all over 100 kwhr billed at 2¢ net or 3¢ gross. Ranges are never metered separately except for commercial consumers who have a $2 monthly minimum for which they receive 60 kwhr with all in addition billed at 2¢ net or 3¢ gross.

Optional range users agree to stay on this contract rate for at least six months. After that time has elapsed they may have a separate billing on notice to us. No more than 15 of the 400 range users have felt that they were economically justified in this separate metering arrangement.

Our regular residential range rate reads as follows:

First 25 kwhr 9½¢ gross, 8½¢ net
Next 15 kwhr 5¢ gross, 4¢ net
Next 60 kwhr 4¢ gross, 3¢ net
All over 100 kwhr, 3¢ gross, 2¢ net

The indicated positive savings of 53¢ each month by the combined range rate has been an exceptionally good talking point in convincing borderline users. Our regular range rate has the customary minimum of $1 per month.

The optional or contract range rate plus free installation by the city's electric department are the two chief reasons for the rapid rise in the number of range consumers. The city uses a 3-wire service with a multi-breaker on each service and a range-type cable from the range to the breaker. We estimate that the average installation cost to us is $35. Six man-hours are required for each service complete from pole to range.

This is a typical residential area service showing the three-wire service that Oglesby uses for a range customer and joint use of pole by city and telephone utility. Wherever possible, poles, wire, and appurtenances are in alleys

Our troubles with tenants owning ranges and desiring to move from range-wired premises to others not so wired are infrequent. Eighty-five per cent of Oglesby dwellings are owner-occupied. Non-owners are allowed to move without charge for a range installation after one year of use in one location. If they move in less than twelve months, we make a prorated charge based on the $35 cost. We, of course, make no charge for moving from range-wired premises to others so wired. We have had only six instances in five years of users moving in less than twelve months.

Water-heater installations have not kept pace with range installations for two reasons. Until several months ago we did not have a rate developed that was attractive enough to offer. Just as it was adopted, the war requirements made it virtually impossible to obtain these heaters. We can do nothing now except wait for post-war business from this source.

Bill Collection

Do we collect our bills? Form your own conclusions from the fact that there has been not one account that we have had to write off during

the last eight years. Collections in the ten-day discount period run from 97 to 99 per cent of the net billings. Our ordinances give consumers thirty days to pay, but by alertness we can and do press for collection by issuing five-day final notices on chronically poor accounts fifteen days after billing. In a small utility such as ours it is not difficult to determine who is and who is not a good risk.

Requests for meter tests are cared for the day they are received no matter what else has to be postponed. We give the consumer a result of the test in writing in that day's mail. We will move an electric meter from the inside to the outside gladly and without charge. Approximately 75 per cent of our meters are so located. Approximately 1,100 meters are read in 24 man-hours. We average no more than three incorrect readings a year.

How Should the Earnings Be Spent?

There are many conflicting philosophies on what should be done with the utility earnings. Some will argue with good reason that the rates should be scaled down to the point where the earning power of the utility will approximately meet the expenses, thereby passing the benefits of efficient operation on to the consumers. We feel that it is more healthy to give high-grade service at moderate rates equal to or better than other utilities of the area and to turn our excess earnings to the general fund to be used whenever advisable. The public benefits in either case, and with our method the utility's earning power is more certain.

We feel that it is an indication of municipal health and progressiveness when we can point to these two facts: Oglesby's electric rates compare favorably with national averages; also our city has a tax rate of only $1.09 for each $100 of assessed valuation. This, incidentally, is the lowest municipal tax rate in the county, and one of the lowest in the entire state of Illinois.

Personnel

Burton Mayers is commissioner of Public Property, having charge of the utility. Burkett Moliske is superintendent. K. R. Brown of Des Moines, Iowa, is the consulting engineer.

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Substitute Materials for Service Pipe

THE elimination of copper as service pipe has resulted in the investigation by water-works officials of substitute or alternate materials. These came in for critical and thorough analyses at the A.W.W.A. Ohio Section May meeting. E. E. Smith, General Superintendent, Dept. of Water and Sewage, Lima, Ohio, in a paper he read at the conference, stated that his department studied both cost and availability of six possible alternates. He listed his findings as follows:

	Price per Foot		In Cents		
	Inch	Inch	Inch	Inch	Inch
Material	¾	1	1¼	1½	2
XS Lead	31	42	53	71	122
XXS Lead	42	53	69	99	172
Cast Iron	—	—	20	22	27
Tubeloy— Type "K"	19	23	39	37	54
Tubeloy— Type "A"	—	—	—	73	120
Wrought Iron	14	19	25	29	40

In discussing each of these he listed advantages or drawbacks as follows:

Lead requires wiped joints, calling for skilled labor. It is permanent, convenient, and ductile.

Cast Iron is permanent, relatively brittle, and usually requires malleable fittings for changes in direction.

Tubeloy is new and has relatively little background. It is convenient, can be wiped, flared, or sweated in fittings and is probably permanent.

Wrought Iron is strong and tough. It requires fittings for more than slight changes in direction. Permancy depends on character of water and durability of fittings.

Plastic tubing is not adapted yet for hot water, nor is it freely available. It needs further developing to be a practical answer, Mr. Smith feels.

Conclusions

As a result of his findings, Mr. Smith expressed his preference for Tubeloy in the smaller services and cast iron in the larger. Wrought iron, despite its favorable price, is relatively scarce for general use and is, in his opinion, not a suitable substitute.

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San Antonio Acquires Power and Electric Service

IN ONE of the largest and most comprehensive transfers of public utilities, the city of San Antonio, Texas, recently has acquired ownership of its electric, gas, and transportation facilities serving not only its own city limits but also nearby suburban areas. In a recent agreement, this city contracted to purchase the San Antonio Public Service Co., a subsidiary of the American Light and Traction Co., for an over-all price of approximately $33,950,000. In order to consummate this agreement, the city will acquire all the private utility's common stock at a price of $10,000,000. Thereafter the city will redeem the utility's preferred stock, serial debentures, and first mortgage bonds.

The area and services are comprehensive. As high as 90 communities are included in its own and surrounding counties. The city will serve a population of approximately 328,000 with electricity and 296,000 with gas; these services also will go to many diversified manufacturing plants and commercial institutions.

According to Mayor C. K. Quin, the properties will be operated by a self-perpetuating non-political board which already has been appointed. The properties are being acquired by revenue bonds.

Mayor Quin reports that the city is disposing of litigation that now is obstructing the final transfer of the physical properties.

Municipal Service Bureau Satisfies Vexed Citizens

By LOWELL LAWRANCE
Public Relations Secretary
Kansas City, Mo.

CRITICISMS and demands by dissatisfied citizens are disturbing to all city officials, but the city administration in Kansas City, Mo., encourages them. Through a unique special department of the municipal government—an Information and Service Bureau—Kansas City officials solicit complaints and settle them with gratitude-winning promptness.

All complaining taxpayers, who have normal responses to courteous and undelayed attention, become commending citizens. They have discovered for themselves that their city government is interested sincerely in their personal wants and will do everything possible to serve theme.

It was not always thus in Kansas City. Before the collapse of the Pendergast political machine nearly three years ago, Mr. and Mrs. Common Citizen who had valid complaints about municipal service were out of luck, unless they were "right" with their ward boss or could demand favors of influential machine officials. In startling contrast to the former regime the present administration, headed by Mayor John B. Gage, who was reelected this spring, has set remarkable records of economy and efficiency. Today when a Kansas Cityan wants something from his city government that he is entitled to receive, he gets action quickly without fawning or favoritism.

The Kansas City Bureau of Information and Service was established September 1, 1940, with a two-fold purpose—to furnish information which will make it easier and more pleasant for citizens to transact business with their municipal government, and to aid all citizens in obtaining quickly, without undue effort, the services from the various city departments to which they are entitled.

The bureau operates in the main lobby on the first floor of Kansas City's 29-story City Hall. It is staffed throughout the business day by a uniformed information officer who knows the answers to just about every question a troubled or confused citizen may ask. He directs scores of visitors daily to the city Department of Civilian Defense, which occupies the entire twenty-fourth floor of the building, and keeps a schedule of all Civilian Defense and other war activity meetings for quick reference.

This Information and Service Bureau in the main lobby of the Kansas City, Mo., City Hall provides unique personalized municipal service for citizens with requests or complaints

But the bureau is far more than an information booth. It is the most easily accessible place in the City Hall where any citizen may tell his troubles to sympathetic ears and get something done about them at once if there is anything the city government can do.

All Kansas Cityans are encouraged to make the fullest use of the bureau by writing, telephoning, or calling in person. If a citizen thinks the street in front of his home should be repaired, if the weeds need mowing on the vacant lot next door, if the garbage collector failed to make his pick-up, if a neighbor is maintaining a nuisance—whatever his complaint or request he is advised to report it to the Service Bureau.

And these requests and complaints are not just filed and then forgotten. They are filed and followed through. The bureau is systematic and thorough. Every service request or complaint received by the bureau is written in four copies on uniform blanks. Three of those forms—white, blue, and green—are sent to the city department concerned. A yellow copy is kept in the files of the bureau.

As a matter of daily routine, the head of the bureau follows up on every service request or complaint to assure satisfactory disposition. He repeatedly prods the departments if necessary to get action and then, when action has been taken, he personally telephones or writes the complaining citizen to inquire if the matter has been settled to his satisfaction. It is that personal attention, that unexpected call from the City Hall, and that obvious eagerness to please that makes this

Service Bureau outstanding.

All municipal services in Kansas City are functioning so efficiently that during the fiscal year which ended April 30, 1942, only 259 of the more than 400,000 citizens deemed it necessary to file complaints with the Information and Service Bureau. Of that number, 59 were complaints of sanitary conditions which were referred to the City Health Department. A total of only 49 complaints about unrepaired streets were registered during the year, and 38 protests of unclean streets were reported. Only 16 complaints about garbage collections were received. As many requests were made for traffic signals or stop signs. There were less than ten complaints each about street lights, fire hazards, stray dogs, smoke nuisance, stopped sewers, water service, and police conduct.

The Service Bureau attendant is a widely known, life-long resident of Kansas City who handles every individual calling at the bureau with the consideration a good salesman would give a customer in a retail store. This city employee feels he has an important selling job—the retailing of good municipal service to Kansas Cityans. He personifies the municipal government for many City Hall visitors.

The Information and Service Bureau has played and continues to play an important part in popularizing good government in Kansas City. No longer does the taxpayer have to cool his heels and wait to plead his case before an abrupt official. He just steps up to the Service Bureau and gets his complaint off his chest with the feeling that it will be taken care of with courtesy and promptness.

Mimeograph Repairs, Weeds, Dogs, and Other Doings of a Village Mayor

TO THE Editor of THE AMERICAN CITY:

The delay in getting this report to you was caused by several circumstances beyond our control. Back in February we had the report all ready to run off on a mimeograph, but we first had to find a second-hand mimeograph which we could purchase, and after getting that, we had to order some extra repair parts, and as some of the materials in these repair parts were on priority, we had to go through considerable red tape and wait a long time for the repairs to arrive. But a short time ago, we got all set, and ran off the reports, and some of them have been delivered.

Our Recorder has been inducted into the armed forces and will be leaving for Fort Snelling this coming Monday, so he handed me your card for answer.

We are enclosing copies of reports for the years 1938-39-40 and 41. Every citizen gets a copy, as do also nonresident property owners. Those who live in the outskirts get their reports by mail, but the rest are delivered, personally, by the Mayor, even though he has to use crutches to get around. This gives the Mayor a chance to get personally acquainted with all the citizens of the town. He invites criticism and suggestions for the betterment of the town, and this gives him a chance to inspect all conditions in the village. The Mayor also appoints himself as Weed Inspector for the village, and by going around he gets in personal contact with every phase of governmental activity.

We just passed the short form of a model War Emergency Ordinance, following pretty closely the model short form ordinance recommended by our League of Minnesota Municipalities.

EDITORIAL NOTE—*In April* 1942 THE AMERICAN CITY *wrote to the Village Recorder of Kasota, asking for a copy of the latest annual report of that Minnesota village of some* 600 *population. Under date of July* 18 *this reply, transmitting was received from Mayor Adolph Mueller.*

We think we have one of the best dog-licensing ordinances in the country. We license all dogs over six months old, whether they run at large or not, charging the same fee, whether male or female, but have an additional Kennel License if persons have or use the females for the purpose of raising young. In other words, we try to discourage keeping a lot of dogs in one family, unless they want to go into the business of raising dogs.

Instead of having to depend on a Dog Catcher to catch dogs and impound them, we haul a few of them—I mean the owners, keepers and harborers of dogs, not the dogs themselves—who refuse or fail to get licenses, into Justice Court. In other words, it is much less trouble for the authorities to catch the owners than it is the dogs. While we have not, as yet, imposed any fines for non-compliance of owners in securing licenses, we do charge them up with the Justice's costs, and for serving the papers by the constable, in addition to making them pay for the licenses. Three is all we have had to bring into court so far.

We do not get out any departmental reports, the village is too small for that. The village owns and operates an electric distribution system, and we make up our annual financial report by segregating the electric light business from the governmental end. While we have not, as yet, adopted the Classification of Accounts, as recommended by our League and Public Examiner, we do use their classification in making up our annual audit, and this audit is made by taking each warrant and verified account, and segregating each item into its proper classification.

We have no bonded indebtedness, no outstanding bills, except what are current, and are paying no interest on borrowed money. We have reduced our delinquent tax list in cooperation with our county officials, and we have also been able to improve our streets, alleys, and sidewalks slowly, but without putting the municipality in debt. We also have a sizeable banking balance.

What improvements we make, we try to make for permanence. Politics are out, as far as our Council is concerned. Our Councilmen get $20 a year, the Mayor $30, which is the maximum for our type of village. We all put in a lot of time for which we are not paid, but it isn't the salary that attracts us to the office; rather it is a labor of love for our little community, and we are getting the proper kind of results. Democracy still lives in the backwoods and the hinterland, and it may be necessary some day for those "in the sticks" to point the way to save the four freedoms some still believe they have under our constitutional form of government.

ADOLPH MUELLER,
Mayor of the Village of Kasota,
Le Sueur County, Minn.

STONY CREEK—JOHNSTOWN, PA.
Before and during construction of channel improvement

LITTLE CONEMAUGH RIVER—JOHNSTOWN, PA.
Before and after construction of channel improvement

Johnstown Channel-Improvement and Flood-Control Project Near Completion

Menacing Floods Now a Matter of History

By Elmer E. Meadley
Executive Secretary, Johnstown Chamber of Commerce

THE city of Johnstown, Pa., has suffered severely from floods throughout its history, but the epoch is now being brought to an abrupt close with the completion of the Johnstown Channel-Improvement and Flood-Control Project. It is expected that all construction work will be completed by the fall of 1943, and citizens are breathing easier with the knowledge that the lurking danger of flood no longer exists.

The Johnstown Channel-Improvement Project was designed and is being constructed by United States Army Engineers. It has for its purpose the protection of the city of Johnstown and vicinity from floods by increasing the discharge capacity of the main stream channels in the district so that a greater portion of the flood flows may be accommodated within the banks. The total estimated cost of the project is $8,670,000, of which approximately $7,793,000 is for construction and approximately $877,000 is for the purchase of lands, easements, and rights of way.

The city of Johnstown is located about 58 miles east of Pittsburgh in the southwestern part of Cambria County. It is situated in a deep and comparatively narrow valley at the junction of Stony Creek and the Little Conemaugh River, which unite to form the Conemaugh River. The triangle of land at the junction of the rivers is known as the "Point." In elevation, the main business section of Johnstown is about 1,165 feet above mean sea level in the vicinity of the "Point," or some 440 feet above that of Pittsburgh.

Johnstown is a highly developed industrial center. According to the 1940 census, the city itself has a population of 66,668; including the surrounding boroughs, the metropolitan population amounts to about 108,485. It is chiefly noted for its steel and coal production. Under practically the entire basin above Johnstown lie the coal seams of the Allegheny Series. These coal resources have resulted in extensive development of mines, towns, and villages. The main line of the Pennsylvania Railroad is contained in the Conemaugh and Little Conemaugh River valleys. The Baltimore & Ohio Railroad enters Johnstown from the south by way of the Stony Creek valley. Numerous branch lines exist throughout the area chiefly for the purpose of serving the extensive coal fields. The uplands, however, are extensively cultivated, especially in the southern part of the basin.

Why Floods Have Been Severe

Three factors have contributed to the severity of floods at Johnstown: the proximity of the drainage area above the city to the prevailing path of storms; the precipitous topography of the basin; and the inadequacy of the natural stream channels through the city.

The natural stream channels were inadequate to carry within their normal banks flood flows such as may be expected to occur almost any year. This condition has long been appreciated by the city of Johnstown. After the great flood of May 1889, and the smaller flood of February 1891, possibilities of channel improvement were investigated resulting in the establishment of channel limits by city ordinances. Since that time, the city has made a number of studies regarding realignment of the stream channels. Following the flood of March 1936, the city sponsored a WPA project for clearance of debris from the stream channels and for the construction of a concrete retaining wall about 2,700 feet long along the left bank of the Conemaugh River below the Pennsylvania Railroad Stone Arch Bridge. A reinforced concrete slope wall, approximately 1,600 feet long, and a stone wall, approximately 600 feet long, have also been constructed on the left bank of Stony Creek in the vicinities of the Baltimore & Ohio Railroad Bridge and the Moxham Bridge.

The present project includes about 8.95 miles of channel improvement. From the "Point," the improvement extends approximately 3.61 miles down the Conemaugh River, 3.92 miles up Stony Creek, and 1.42 miles up the Little Conemaugh River. In general, the major features of the project are: (1) enlarging and realigning the channels; (2) concrete pavement for protection of the banks; (3) relocation of railroad, highway, and utility facilities; and (4) alterations to sewers and drains, bridge piers, and other structures where necessary.

Six Contract Units

In order to expedite the work, construction is being performed in sections, six such contract units being involved. The first three units covered the Conemaugh River section of improvement and are now fully completed. The fourth, also fully completed, covered the Little Conemaugh River section, and the fifth and sixth, now under construction, the Stony Creek section.

Construction of the first unit, located at the downstream end of the project, was completed in November 1939. It provided for channel improvement and related work in a reach extending from about one-half mile below the Dornick Point railroad bridge, near the northern boundary of the city, to a point upstream 4,074 feet. The principal features of the work were widening, deepening, and realigning the channel; paving the side slopes with reinforced concrete; and altering existing sewers and drains. At the lower end a suitable transition is made from the improved channel to the natural channel below.

Construction of the second unit of the channel improvement was completed in November 1940. This unit began at the upstream end of the first contract unit and extended up the Conemaugh River a distance of 6,997 feet. In general, the construction features involved were the same as for Unit No. 1. However, to facilitate channel construction in the second contract unit, a supplementary contract was let involving the relocation of a section of railroad track, a highway, and a sanitary sewer located on the right bank of the river. This supplementary contract was completed in October 1939.

Construction of the third unit, which extended from the upstream end of the second unit to points 200 feet and 400 feet above the mouths of Little Conemaugh River and Stony Creek, was completed in July 1941. The construction features involved were, in general, the same as for Unit No. 1 and Unit No. 2.

Construction of the fourth unit, located on the Little Conemaugh River, was completed in August 1941. This unit covered a reach 7,300 feet in length beginning 200 feet above the mouth of the stream and extending upstream to about 150 feet below the Pennsylvania Railroad bridge in the vicinity of Fifth Street. The banks for approximately 60 per cent of the distance were already protected by existing walls and the remainder were paved. In addition the channel was widened, deepened, and to some extent realigned.

Construction of the fifth unit, located on Stony Creek, commenced in June 1941, is scheduled for completion in October 1942. This unit covers 8,600 feet of channel, beginning at a point 400 feet above the mouth of the stream. The river banks for about one-third of this reach are retained by vertical concrete and masonry walls. On the left bank most of these walls are being removed incidental to the removal of buildings which obstruct the channel.

A negotiated contract was entered into in May 1942 for the construction of Unit No. 6 and work is now under way.

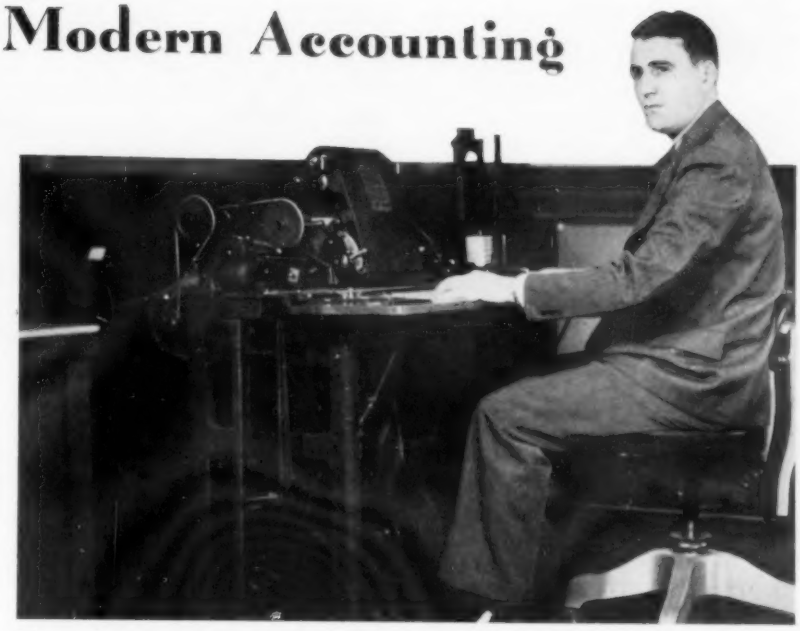
The project as a whole, including lands and damages, is about 70 per cent complete. It is expected that all construction work will be completed by the fall of 1943, and the city of Johnstown will then celebrate its freedom from a danger that has beset its progress ever since the first settlement was established on the site by Joseph Johns, the founder, in 1793.

Government's True Aim

"The ultimate aim of government is not to rule, nor restrain by fear, nor to exact obedience, but contrariwise, to free every man from fear, that he may live in all possible security; in other words, to strengthen his natural right to exist and work without injury to himself or others. No, the object of government is not to change men from rational beings into beasts or puppets, but to enable them to develop their reason unshackled; neither showing hatred, anger or deceit, nor watched with the eyes of jealousy and injustice. In fact, the true aim of government is liberty."—Baruch De Spinoza

Developing a Modern Accounting System for a Small City

By JULIAN W. DESHAIES
Chief City Auditor, Lewiston, Me.



The author at one of the Elliott addressing machines which print owners' names, addresses, and property description on tax roll and bills—saving five weeks' time

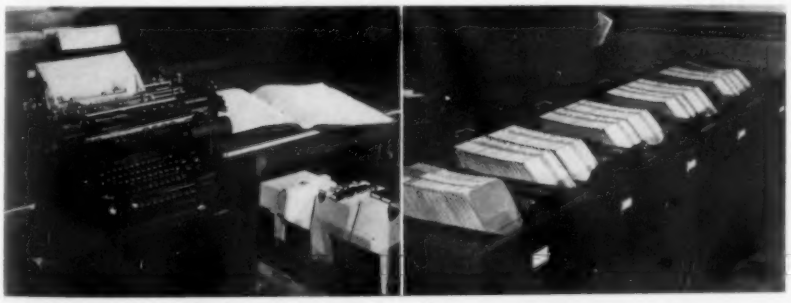
ON January 16, 1940, the auditor of the city of Lewiston, Me., was given full authority by the board of finance to make a thorough study of the accounting structure of all city departments in regard to a complete revision and modernization of the system.

After seven months' study of mechanical equipment, systems, and new accounting forms, and after visits to new installations in other cities outside the state of Maine, the auditor submitted a detailed report to the board of finance, giving his recommendations for an entire change of system and for the purchase of all necessary mechanical accounting equipment. The board unanimously approved this report and granted a special appropriation of $10,000 to take care of these changes.

Orders for the purchase of this new equipment and forms were immediately placed with the several concerns recommended. Meanwhile, all city accounting offices were renovated. New indirect lighting and new flooring were put in. A central accounting room was brought into existence and named the Department of Accounts and Control. New office furniture and fixtures were purchased. By October 1940, the first of the new installations was made and immediately put to use. By the end of November 1940, all recommended accounting machines were installed and assigned to their respective work. It may be said at this time that all systems and forms were designed and approved by the auditor's department, no stock forms being used. The accounting machines were designed to conform with the system as recommended by the auditor.

It seems to be the opinion of local municipal officers and also of public accountants and auditors that the city of Lewiston has at present one of the most modern and up-to-date municipal accounting systems in New England, if not in the entire country, for a city of 38,000 population.

Although it is difficult to explain all of these sweeping changes in a short discussion, I will endeavor to give you a brief summary of the improvements made during 1940 covering practically all city departments.



Remington Rand electrified bookkeeping machine which writes all city checks and treasurer's warrants in one operation and distributes all departmental expenses to individual card (filed in ledger tray at right)

System of Purchases

The first and probably the most important step for the betterment of the accounting system of the city of Lewiston was the establishment of a central purchasing office.

Any department wishing to purchase materials and supplies, or wishing to contract for new services, personal or otherwise, must make out a requisition stating what is needed and present this to the controller, who is our purchasing agent. The agent calls for bids, sends for quotations, or makes local contacts by telephone. A purchase order is then made in five copies, one each to the following: the vendor, department, auditor, purchasing department, and one serving as a receiving record. The auditor's copy is used for encumbering the various accounts affected.

A Remington Rand Kardex filing system is used to keep current

prices of materials and supplies and records of all purchases for the city. Previous to the installation of this system, each department did its own buying.

Budgetary Control

For the first time in the accounting history of the city of Lewiston, a system of control over the budget, both receipts and expenditures, was put into force. To do this work, the Underwood-Elliott-Fisher Sundstrand Class D accounting machine was chosen and assigned to the following work: budgetary control-receipts and expenditures; monthly budget reports-receipts and expenditures; tax billing; assessor's and tax collector's rolls; tax collector's cash records; delinquent tax records; general ledger postings.

Every morning, all purchase orders issued the previous day are encumbered to the various accounts, giving at all times a clear financial condition of the several appropriations. The same is done for cash receipts, these being posted daily to the revenue ledger cards. City obligations are paid every ten days and immediately posted to the expenditure ledger cards from the vouchers payable. Any difference between the amount of the purchase order and the amount paid is automatically adjusted by the machine.

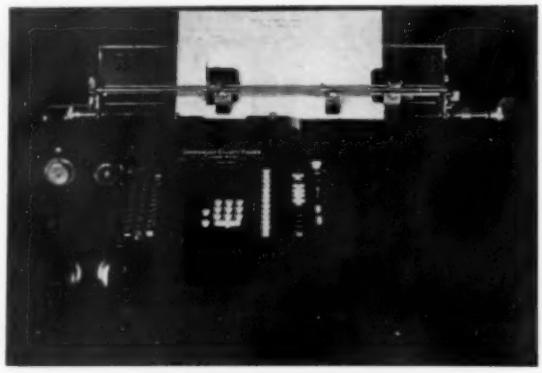
Budget Reports

Budget reports are prepared from the expenditure ledger cards, and this can be done daily, weekly, or monthly. The exact time needed to complete one of these reports is approximately twenty minutes. Under the old method of pen and ink and typing, the same report took from two to three days. The revenue report is made in the same way from the revenue ledger cards and takes about the same time.

At present, these reports are made monthly and from these, photostatic copies are made and furnished to the members of the board of finance as well as the local newspapers.

Check Disbursements (Payrolls and Bills Payable)

All city checks are made on an electrified Remington Rand Model 85 bookkeeping machine. The check register, or as it is called in some places, the treasurer's warrant, and the check itself are made in one operation. Payrolls for 400 employees, which formerly were typed and took about 1½ days to complete, are now done in approximately two hours with this machine. An automatic total for each department and a grand total of the entire payroll is given. The same procedure is used when making checks for regular bills payable.



Sundstrand automatic tax-computing and accounting machine which makes effective the city's first control over daily budget receipts and expenditures, and in addition makes monthly budget reports, computes taxes on assessment roll and tax roll, makes tax collector's cash records and delinquent records, and posts the general ledger

Under the old system all checks were signed by pen and ink and took much of the treasurer's time. At present, two Todd electrified machines, one a check writer, the other a check signer, are being used.

All departmental expenses are distributed to an individual ledger card set up for various classifications, by this Remington Rand bookkeeping machine. Under the old system, this was done in pen and ink and took practically the whole month. In other words, records were never up to date on the posting of expenditures. At present, all distributions to the many classifications are completed four days after the bills and invoices are paid. As you may see, this is certainly an improvement on the old method. Records are much neater, and many more detailed classifications are possible. All the records mentioned in the previous operations are kept in fireproof safe files designed by Remington Rand.

Analysis Binders for Departmental Receipts and Expenditures

Two McBee analysis binders together with the necessary forms were purchased for the use of the controller and the auditor. One gives the analysis of departmental expenditures for the twelve months, the other an analysis of the revenues. These McBee analysis forms give city officials comparative figures of all departmental receipts and expenditures over a period of time as long as desired.

Receipting Machines

One of the loosest procedures in our system was the collection of monies in the treasurer-collector's office and the water office, where antique perforating machines and rubber stamps were used. This was remedied during the last year by the purchase of two Burroughs receipting machines built to specifications for the needs of our city. These have been in operation since September 1941 and are working satisfactorily.

Addressing Machines

Another big step in time saving was made when two Elliott addressing machines were purchased, one for the tax billing and imprinting of the assessor's rolls and the other for water billing. Under the old system, pen and ink or typewriter was used. At present, water bills which previously took two weeks to address are now imprinted in two days. The saving of time on tax billing will amount to five or six weeks.

Other Mechanical Equipment

A Marchant calculator is used for computing interest on delinquent taxes, checking invoices, and compiling budgetary percentages. A Niagara duplicating machine prints all city inter-office notices and reports.

During 1940 the entire classification of accounts of the city was changed and coded in accordance with the standard classification of

municipal revenues and expenditures as approved by the National Committee on Municipal Accounting and the Municipal Finance Officers Association.

Asseessments and Tax Billing

Of all city accounting records, those in the assessor's and tax collector's departments were the most antiquated. Everything was done in long hand and, besides taking a great deal of time, much checking back had to be done to balance the records. This was radically changed with the purchase of the Sunstrand accounting machine, previously mentioned. All tax work is done on this machine in conjunction with the Elliott addressing machine. Ledger cards with room for six years' records are used for each individual taxpayer.

The assessor's tax rolls, both real and personal, are made on the Sunstrand machine, totals of various columns accumulating as the work progresses. A cipher line proof and final total proof eliminates any chance of error in the balancing of the commitment. From the assessor's roll, the unit tax ledger card, tax bill, and collector's roll are all made in one operation, the machine automatically computing the amount of the tax and breaking it down into two or three payments as desired. The Sunstrand embodies the multiplying feature which permits this operation. By the old method, tax amounts were computed from a chart. This year we hope to complete our entire tax billing in about ten days in comparison with the seven or eight weeks formerly consumed.

Poll Taxes

We had a choice of methods in making our poll-tax bills. One way was with the Elliott addressing machine, the other with an electric front-feed Burroughs typewriter. After much study we decided upon the electric typewriter. The reason for this was that too many changes in addresses occurred on this type of taxation. Our regular operator completed 9,890 poll-tax bills in seven days, averaging 200 an hour.

Collection of Taxes

The record of payments of real and personal taxes are posted daily to the unit tax ledger cards and the collector's cash book simultaneously. Totals are posted daily to control accounts.

Accounting for Tax Liens

Tax-lien work is handled by the Remington Rand bookkeeping machine. Payments are posted daily to the individual lien cards, then are distributed by years to a payment-of-liens record, all in one operation.

Fireproof Filing Equipment

All records pertaining to the assessors' and tax collector's departments are filed in Remington Rand fireproof safe cabinets.

Budget Reports

Again for the first time, in 1940 a budget report comprising 122 pages or more, concerning the detailed activities of the city's 57 departments was prepared by the auditor's office. This follows closely the recommendations for budget preparation as published by the Municipal Finance Officers Association.

Conclusion

Although the author of this paper knows that many other cities are as well equipped as the city of Lewiston, if not better, it is doubtful if any city of the size of Lewiston has done as much in six or seven months to improve its accounting system. It is paving the way for better accounting records in municipalities of its own state, and also of neighboring states, by being the first and only one in this part of the country to boast about these new improvements and changes.

Since the new charter of the city of Lewiston went into effect two years ago, this city through good management and foresight has eliminated recurring yearly deficits and has shown a surplus for the last two years. This year's surplus will exceed $105,000 with all bills paid. Credit for the large-scale changes of these years goes to our Board of Finance for their fine cooperation on the approval of the auditor's survey and to the Municipal Finance Officers Association, who through its frequent bulletins, conferences, and advice has made it possible for the author to keep up with new municipal accounting methods.

Among the services rendered to our community by these improvements are:

1. Substantial savings on purchases through the centralized purchasing system
2. Prompt, frequent, and accurate financial reports
3. Absolute control over receipts and expenditures through the new budgetary system and the balancing of the year's budget
4. Safeguarding city's monies through better control of cash collections
5. Much more detailed information of all expenditure classifications
6. Savings in office working time and clerical help
7. Much more efficient service for the taxpayers of the City Hall offices
8. A hundred per cent more accurate budget estimates made possible
9. The incentive given to other municipalities to modernize their own accounting systems

Libraries and the War

***A Statement of Library Policy* Adopted by the Council of the American Library Association**

The American Library Association believes that the American people are faced by three problems of such dominating importance as to demand the concentrated efforts of all agencies. They are:

1. How to make our maximum contribution to the winning of the war;

2. Whether we as a nation wish to return to pre-war conditions or to continue progress toward democratic goals;

3. Whether and to what extent we want our country to participate in the organization of the world for peace.

The Association therefore recommends that every library give the greatest possible emphasis for the duration of the war to those materials and services which will give people the facts and ideas that will enable them to make intelligent decisions on these important questions; and it calls upon its officers to assist libraries in carrying out this program with all the means and imagination at their command.

Libraries must always refrain from telling people what to think. They cannot avoid the responsibility of helping them to decide what to think about.

Where Next in City Development?

Rochester, Buffalo, and San Francisco Look Ahead

"IN Rochester we can fumble toward our destiny as a city, or we can work for it in unison. We can continue to squeeze our city land until all life is gone from it, or we can take pride in rediscovering its potential strength, its potential usefulness. Many persons hold fragments of our urban puzzle in their hands. If they can be persuaded together in a spirit of trust and cooperation, we shall have met Rochester's turning point with proper decision."

This challenge to municipal statesmanship is from an article by Mrs. Alan Valentine, Vice-President, Citizens' City Planning and Housing Council of Rochester, N. Y., as published in a recent issue of the semi-monthly magazine of the Rochester Chamber of Commerce. Pointing out that the development of American cities has reached a turning point, Mrs. Valentine says, in part:

Generally speaking the history of Rochester's growth has been that of most other cities in the United States. Its growth has been occasioned by land speculation. Where land brought profits, there the town expanded. In this shifting pattern, one part of town suffered as another outstripped it in prosperity. . . .

Unwise Overcrowding

To meet the mounting taxes on the neglected sections of the city, more and more people were crowded on the land, or land was forced into ulterior uses in order that its owners might retrieve some further profit from it. Entire residential districts were destroyed as light and air and playground space vanished and commerce and industry invaded home sections.

The lower income group fell heir to these properties and to the deteriorated dwellings on them. We heard less of poor housing while rentals were still secured from them. It was supposed that if a pattern were found financially practical, it would be socially justifiable. It was not until the city budget reflected the strain of carrying so much devalued land that the matter obviously went beyond individual loss and became a municipal problem.

Zoning, subject to neighborhood wishes and community pressure, was not in itself an adequate weapon.

City planning tended to act as a kind of umpire (without authority) between particular sections of town, each section advocating its particular improvement without thought of the over-all city structure.

If this description seems exaggerated, one has but to talk to real estate interests, or to banks which hold large blocks of property in Rochester. From these sources one hears an even more desolate account of the town's vanishing land value. Patently there is need for collective action of some kind to check this unprofitable, haphazard city development and to substitute for it a sensible, orderly plan of growth.

New Vision and Rules Are Needed

Somehow a collective view of Rochester, of the kind of city it is, of the kind of community it can afford to be, must be the basis on which we reassess our land here. If we reclaim blighted areas carefully and wisely, step by step, in accordance with some master plan, we shall reestablish the balance between private interest in urban land and corporate interest in that same land, a balance which is now out of kilter in Rochester.

City planning of this type will recognize that reasonable neighborhood stability through authoritative planning (backed by legal controls) is a prime factor in tempting investment of private funds in property within city limits.

City planning of this new type will fit land uses to reality and suggest where blighted areas may be cleared for "public use" as well as for private redevelopment.

City planning of this type will recognize the financial and legal obstacles in the path of redevelopment of blighted areas. It might be that the city should set up within its government an agency (such as is suggested by the Urban Land Institute) to assemble blighted areas. At present our city does not have sufficient controls to reclaim these areas for redevelopment.

City planning of this new type would consider the financial picture of Rochester and the new legislation needed to implement the plan. It would consider how the city may eventually set aside enough funds to modernize obsolescent neighborhoods; what effect public housing would have on the city budget; what effect public funds are having on us today; what relation federal assistance will have on the planning picture of the future; and what part Rochester will play in the program of public works now under consideration, to be launched after the war.

Mrs. Alan Valentine, of Rochester, sees need for new rules to regulate land use

Claims of large, indeterminate social gains by this or that group, for this or that urban improvement, are no longer enough. They make handsome reading in the newspapers while a controversy is on. But since there is no logical plan for city development, no balance sheet against which to weigh the measure that is up for debate, who is to say whether it be right or wrong, good or bad for Rochester? We need a pride in our city's growth that lifts us beyond mere sectional interest or personal investment. We need to recognize that Rochester's welfare as a whole is as important to us as is our momentary profit, because Rochester's ruin brings our ruin.

too. We need to take strong collective action. We need an authoritative plan for Rochester's future.

United Effort Needed

We must cease pulling and hauling this way and that so that the shreds of our town lie scattered between us. . . .

Surely it must be permissible for us to re-create a city in which we own a home without fear of loss from factors over which we have no control. Surely we can enjoy here those durable satisfactions which are the natural outgrowth of orderly thinking and wise planning.

Rebuilding Old Buffalo

PLANNING for the redevelopment of the substandard residential and blighted areas of Buffalo, N. Y., has become a major activity of the Buffalo City Planning Association. Detailed block-by-block studies of typical areas will be followed by planned layouts for their reconstruction.

In a recent bulletin, "Rebuilding Old Buffalo," the Association emphasizes the fact that no neighborhood can be scientifically selected for redevelopment unless its relation to the rest of a "planned Buffalo" is known. As an essential cog in the redevelopment machinery, creation of a Division of Planning in the city government is being actively sought by the Planning Association.

To stimulate popular concern with "what we have" and increased interest in "what we want," the Association uses the graphic method shown on the two following pages.

"Now Is the Time to Plan"

Says the San Francisco Housing and Planning Association

AS IT IS
you live
in a house
in an apartment
in a row house
have you got lots of light, sun, and air, and space around you ?
Accomodating the same number of people on the same amount of land - with PLANNING this is what
IT COULD BE

AS IT IS
you play
in parks
movies
games
walks
etc., etc.
How far away is a playground from where you live
Where do your children play ?
Can we use the Bay for which we are so famous ?
Accomodating the same number of people on the same amount of land - WITH PLANNING this is the way
- IT COULD BE

"First Steps to a Master Plan for San Francisco" is the subject of a convincingly worded and strikingly illustrated pamphlet through which the San Francisco Housing and Planning Association is helping officials and voters to look at their city with new eyes and to give more intelligent thought to the city's future. Above are shown, in reduced size, two pages of this brochure.

(See listing on page 85 of the July issue of THE AMERICAN CITY*)*

WHAT WE HAVE

Buffalo suffers from neighborhood decay and obsolescence. Spotted throughout the City are deteriorating areas stripped of sound economic and social standards of living essential to good neighborhoods. ONE THIRD of the total dwelling units in the City (50,186) are the substandard homes of over 200,000 citizens or future citizens of Buffalo.

● TRAFFIC PENETRATES home districts — like water through a sieve—creating noise, fumes and danger to life. Recreation facilities too remote or insufficient force children to play in streets.

● INDUSTRY AND THE HOME don't thrive together. When industry mushrooms into residential areas it kills beauty, lowers land values, hastens blight and forces tenants to seek more desirable locations.

● LACK OF LIGHT AND AIR result from crowding of structures on narrow lots. Rear dwellings further aggravate unhealthy conditions.

● OVERCROWDING INCREASES as these old buildings are converted to house several families instead of one.

● UNSANITARY AND DANGEROUS TO LIVE IN are these dilapidated structures, a large percentage of which are classified as unfit for use.

● SERIOUS TAX DELINQUENCY develops because there is no incentive to build new houses or repair old ones. Other taxpayers must assume the burden of these decaying liabilities.

● COST TO THE CITY MOUNTS because these areas require greater fire and police protection and health services.

● BUFFALO'S POPULATION DECLINES as blight causes more and more residents to move to the suburbs for better living conditions.

(From "Rebuilding Old Buffalo," by the

WHAT WE WANT

Buffalo wants livable neighborhoods where normal and wholesome family life can exist. The forcing of isolated housing developments into a form built for horse and buggy needs is not sufficient to solve the problem. Complete replanning and LARGE SCALE rebuilding is necessary. Until this is done, the evacuation to the suburbs by those who can escape will continue.

● **THROUGH TRAFFIC** must be confined to fewer but more efficient trafficways skirting newly defined neighborhoods. Unnecessary interior streets must be converted into central parks and playgrounds.

● **LARGE SCALE DEVELOPMENTS** are needed—large enough to maintain their own character and values. Industry must be conveniently close but insulated from residential areas by park strips.

● **SUNLIGHT, FRESH AIR AND PLEASANT SURROUNDINGS** are essentials. Properly spaced structures, based on modern principles of site planning, must replace existing congestion.

● **MORE LIVING SPACE** must be the goal of the design of new or remodeled dwellings.

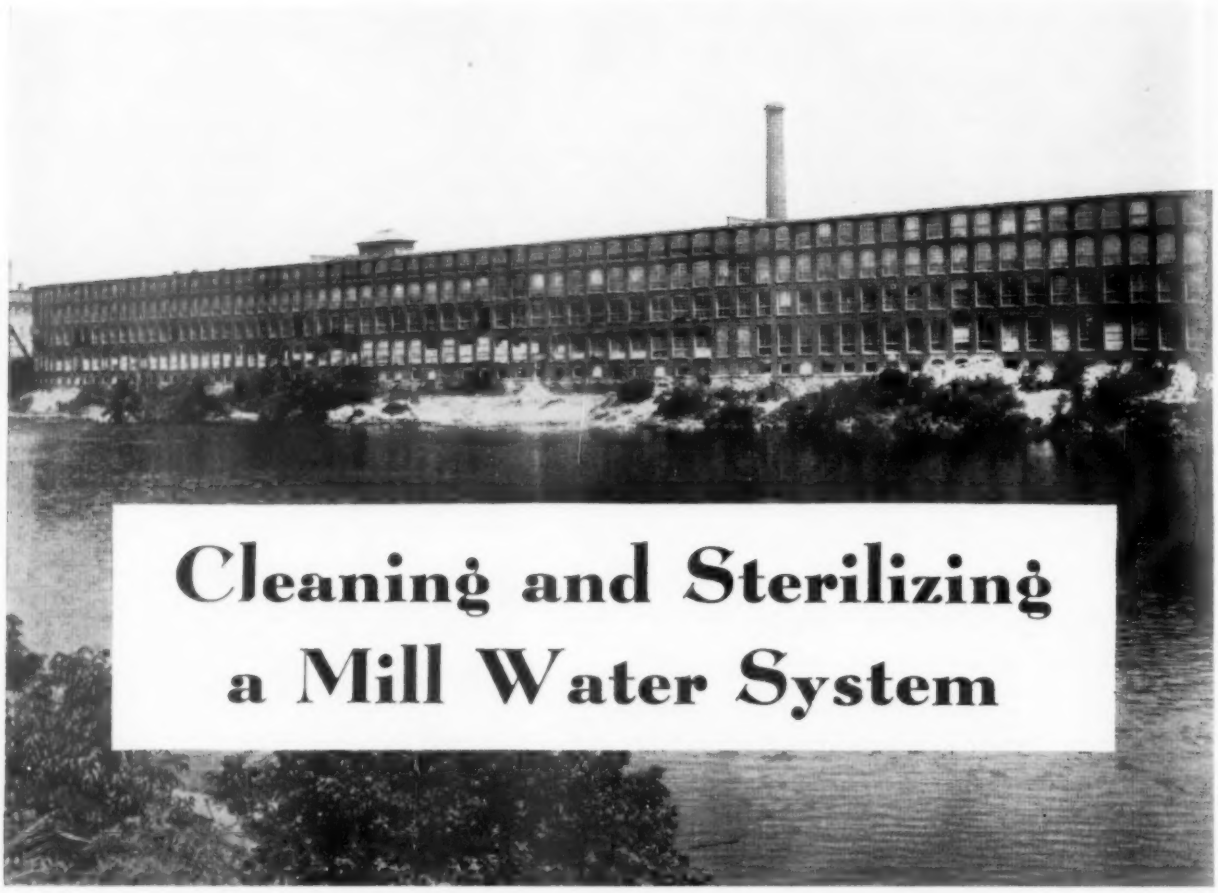
● **SAFE AND SANITARY LIVING CONDITIONS** must be the first consideration in the remodeling or rebuilding of homes in the planned neighborhood.

● **INCREASED TAX INCOME** will accrue to Buffalo because assessments on new homes and remodeled structures will rise.

● **LOWER COST OF POLICE AND FIRE** protection will result from iproved social conditions and elimination of fire hazards.

● **BUFFALO RESIDENTS** will want to remain in the City —as the old neighborhoods are rebuilt—close to their work, their friends and other interests.

Buffalo City Planning Association)



Cleaning and Sterilizing a Mill Water System

Meeting Problems That Occurred When the Water Department at Manchester, N. H., Acquired the Amoskeag Mill Water System

By P. A. Shaw
Superintendent and Engineer
Manchester Water Works

IT IS unusual for a water department to be confronted with such an extensive problem of main sterilizing and cleaning as the one that fell to us when we incorporated the water system of the great Amoskeag mills into our own supply system. This plant was, before its bankruptcy, the largest cotton and woolen mill in the world. Covering about 170 acres on each side of the Merrimac River, it had its own hydro-electric and steam plants as well as an independent water supply.

In 1936, when this mighty plant closed and its multitude of machines rumbled to a stop, local business men and bankers, realizing the importance of the mill to the city, assumed the risk of purchasing the entire property.

The Mill Water System

The mill had a water system that would do justice to a moderate-sized city. It drew its supply from the Merrimac River. It had four large pumping stations, an 11-million-gallon reservoir, and two 5-mgd rapid sand filters. It had over 12 miles of mains varying in diameter from 4 to 24 inches. The system was interconnected with the city supply at various points, protected by double-bronze check valves.

By the city's taking over this system, it was apparent that excessive pumping and other operating expenses could be avoided and a safe, cheap water supply obtained. The water department, also, was able to eliminate cross connections with river water and at the same time carry out its normal function of supplying water for fire protection to this important area.

Interconnection With Manchester System

The first step in connecting the two systems was the construction of a 16-inch main to connect with three 14-inch mains in the mill system. When this 16-inch main was completed gates were shut at the points of cross connection, and we were ready to feed the mill system with city water. The 24-inch pumping main to the Amoskeag Reservoir was later connected into

our high pressure system. Connections to the yard system were made to our high pressure system through 12-inch and 16-inch pressure reducing valves. These were set to supply water to the Amoskeag system, and later to our entire low-pressure system, with a 10-pound drop in pressure.

Cleaning Old Mains

The next job was cleaning the 10 miles of mains kept in use and the more than 150 miles of inside piping. This piping had always carried river water and was partially filled with silt. At all times, when cutting into this system and when cleaning it, our operations were handicapped by the fact that many mill areas were in use and their requirements had to be considered.

The question of using mechanical cleaning devices naturally came up, but owing to the complicated water system, with many offsets and bends, we decided against their use. We had 11 million gallons of water on hand in the Amoskeag Reservoir, and we used nearly all of it in flushing out the main pipe system through the hydrants. Several hydrants were opened at a time in order to get a scouring velocity in the mains. The visual results of this first flushing were large quantities of mud and tubercles. When this flushing was over, no river water was again put into the system.

We then flushed the entire system, using city water. Wherever possible this flushing was done in the direction opposite to that when river water was used; with the city water we also had 20 pounds more pressure. This second flushing produced little mud, but large quantities of coarse material. Fire flow tests indicated that the mains were comparatively clean; later, rapid travel of chloramines attested to the freedom of the mains from vegetable or other absorptive matter.

Disinfection

With the outside piping cleaned, or at least well rinsed, we were ready to disinfect it. The entire mill system on both sides of the river was now fed through our new 16-inch line connected at about the center of the system on the east side. Over this main was constructed a small building to house the chlorinating apparatus. This equipment consisted of two electrically operated Proportioneers pumps, one for chlorine, and one for ammonia. The solutions were mixed to the desired strength and fed from 20-gallon crocks. I might say that a blind man could have found this chemical plant if he had come within 150 feet of it.

For our chlorine we used a 12½ per cent sodium hypochlorite solution and for ammonia 29 per cent B. E. ammonia solution. We used special rubber tubing for connections between the solution tanks and pumps, and copper tubing for discharge into the main. The copper worked satisfactorily for a temporary hook-up, but showed corrosion. Taps in the main were eight feet apart with the chlorine entering ahead of the ammonia. The plant was operated 24 hours per day until the completion of the preliminary disinfection program. The proportion used throughout the disinfecting program was two parts chlorine to one part ammonia. Chlorimines were used instead of chlorine alone, since we anticipated difficulty in getting plain chlorine residuals through the entire mill system.

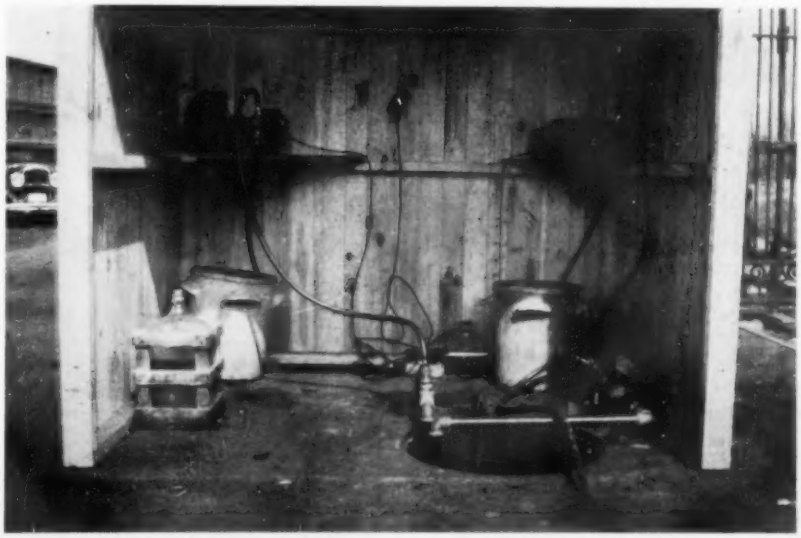
Chlorine absorption was not nearly as high as we had anticipated, and residuals traveled through the mains perhaps five times as rapidly as we had expected —probably due to the mains being cleaner than we had believed. We had thought it possible that the chlorinating plant would have to be moved to several places in the system to reduce the length of travel.

After chlorine residuals had been obtained at all hydrants, work was started in the 800,000 lineal feet of inside piping. We bled these lines until we obtained a definite chlorine residual at every dead end. Sprinkler lines were the greatest problem because the last sprinkler head on each run had to be removed, a hose connected, and the water flushed out of windows. Fire service lines and sprinkling systems were disinfected as a safeguard since, in the future, mill or domestic use might possibly be required of them.

Tests

As the work of disinfecting proceeded, water drawn from the hydrants, taps, and sprinkler heads was sent to the New Hampshire State Board of Health for testing. Water from the mains and mill-use taps was practically always free of the Coli Aerogenes group, occasional samples only containing these bacteria in 10-cc. quantities. Other bacteria quantities were usually high in the samples from the mill piping. The poorest samples were from hose lines connected to

(Concluded on page 93)



Looking inside the chlorinating building used to sterilize the mains for the entire system. All the chlorinating was done inside this building. Proportioneer equipment fed the solution into the mill system. "A blind man," says Mr. Shaw, "could have found his way to this station"

New Street-Numbering System for Salt Lake City

Provision for Curved and Crooked Streets

By Richard R. Lyman
Consulting Civil Engineer

SOME fifteen years ago the American Society of Civil Engineers appointed a committee of three to devise "a method of so numbering streets that any traveler can find any address in any city without a map or other help." I was made a member of this committee.

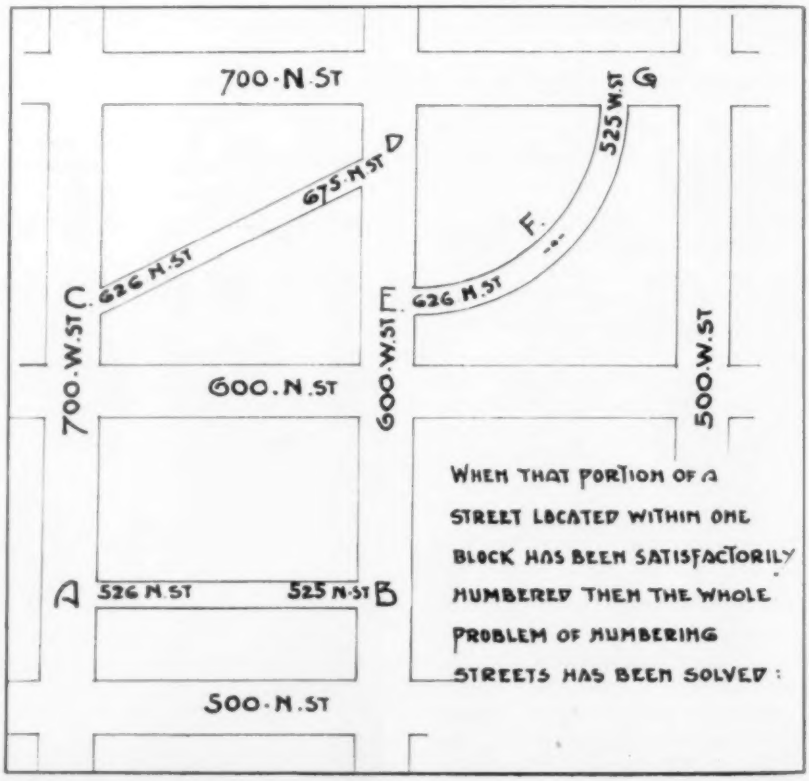
A new street-numbering system being installed in Salt Lake City and County, in Sacramento, and a number of other municipalities is believed to be a satisfactory solution of this problem. The Sons of the Utah Pioneers are undertaking to get it installed in all the cities and towns of Utah by July 24, 1947, the date of the centennial celebration of the entrance of the Utah Pioneers into Salt Lake Valley.

This new system is almost as simple as, and it is similar to, the house-numbering method used in some few cities, by which buildings and houses are numbered with reference to their direction and distance from two fixed reference lines approximately at right angles to each other. Usually one of these reference lines extends north and south, and the other east and west. Under such a system, if Elm Street, for example, has an east-west direction, the numbers of the houses on that street will run east from the reference line going at right angles to it, and west from this line. If, as is usually the practice, 100 numbers are allowed for each block (unused numbers being skipped), a house numbered "820 East Elm Street" will be 8.2 blocks east of the reference line and a house numbered "820 West Elm Street" will be the same distance—8.2 blocks—west of this line.

Salt Lake City's new street-numbering method applies this same simple principle to the numbering of its streets. There are two fixed reference lines or axis streets. In Salt Lake City, one of these, "Main Street," is "0 East Street" on one side and "0 West Street" on the other. The other reference line, "South Temple Street," is "0 North Street" on one side and "0 South Street" on the other.

All other streets are given numbers and directional names according to their distance and direction from these two axes. They are numbered by 100's — 100 for each block away from these two axes. All streets parallel to and north of one reference line are given the direction "North" and all those parallel to and south of the same reference line bear the direction "South." All streets parallel to and east of the other reference line or axis are given the direction "East," and all those parallel to and west of the same reference line bear the direction "West."

Example: the street which runs parallel to, and one block north of, the reference line is called "100 North Street." The street running parallel to and 19 blocks west of the other axis is named "1900 West Street." A house on this street two and one-half blocks north of the reference line would have the address "250 North, 1900 West Street." A house on this street three and a quarter blocks south of the axis would have the address



Illustrating the way in which three main types of irregular streets are numbered under Salt Lake City's new street-numbering system. The method used in these three cases will solve the most complicated street-numbering problems

"325 South, 1900 West Street." Now, reasoning backward, we know, therefore, that Blaine Street in Salt Lake City, numbered "1735 South Street," is 17.35 blocks south of the Salt Lake City east-west reference line.

Systems somewhat similar to this portion of the new Salt Lake City method of numbering streets have been installed elsewhere. But applying numbers within the framework of the system to curved, diagonal, short, and narrow streets, or alleys which cut through main blocks, is new. Perhaps the most unique and valuable feature of this new street-numbering system is that these irregular streets are as easy to find as are the regular ones which run parallel to the reference lines. However crooked, curved,

New street signs in place

rambling, or numerous the streets, there is within this new system a number for each one.

The accompanying diagram illustrates the way in which the method applies to the numbering of the three principal types of irregular streets which intersect main blocks:

1. Short streets paralled to the axis
2. Diagonal streets
3. Streets which are curved or have a shorseshoe shape

Type 1: The street A-B on the diagram, parallel to the axis, cuts the block between "500 North Street" and "600 North Street." Assigning to this block 100 numbers, from 500 to 600 (50 on each side of the street), the street A-B at its west end falls at "No. 526." It is given the same number that a house would have if located at this same place. At its east end the street is "525 North Street" because houses on the left side of the street are given odd numbers. The street A-B can be found as readily from one number as from the other.

Type 2: The diagonal street C-D on the diagram, not parallel to the axis, and treated as an east-west street, is "626 North Street" at its west end and "675 North Street" at its east end. This street also may be found as readily from one number as from the other. Residents living near the west end of the street would probably use the designation "626 North Street," and those living near the east end of the street would probably use "675 North Street." If street C-D were extended and intersected several blocks it would receive a new number at each intersection. For example, "Highland Drive" in Salt Lake City is 9 miles long. It is "2345 East Street" at its south end and "1170 East Street" at its northern end, with a different number at each intersection throughout its 9 miles of length.

For long and important diagonal or curved streets like "Highland Drive," street signs could very properly carry both the name of the street and its corresponding number as is shown in the accompanying cut which presents a picture of one of the street signs on this important thoroughfare in Salt Lake County. This applies also when for historic or other reasons it is desirable to retain the original name of a street.

Type 3: The case of a street which changes its direction inside a block is shown in the diagram by street E-F-G. The E-F portion of the street, regarded as running east and west, is "626 North Street," and the F-G section, regarded as a north and south street, is "525 West Street." If the street E-F-G were in the form of a horseshow entering the block at E and coming out of the block at D on "600 West Street," then both sections of the street would be regarded as east and west streets. Section E-F would be "626 North Street" as at present; and section F-G would be "676 North Street."

The accompanying illustrations show the new street signs in Salt Lake City as they are now being installed—with some delay because of the metal shortage. The signs are placed at an elevation where, on

In some cases the old name is retained along with the new number

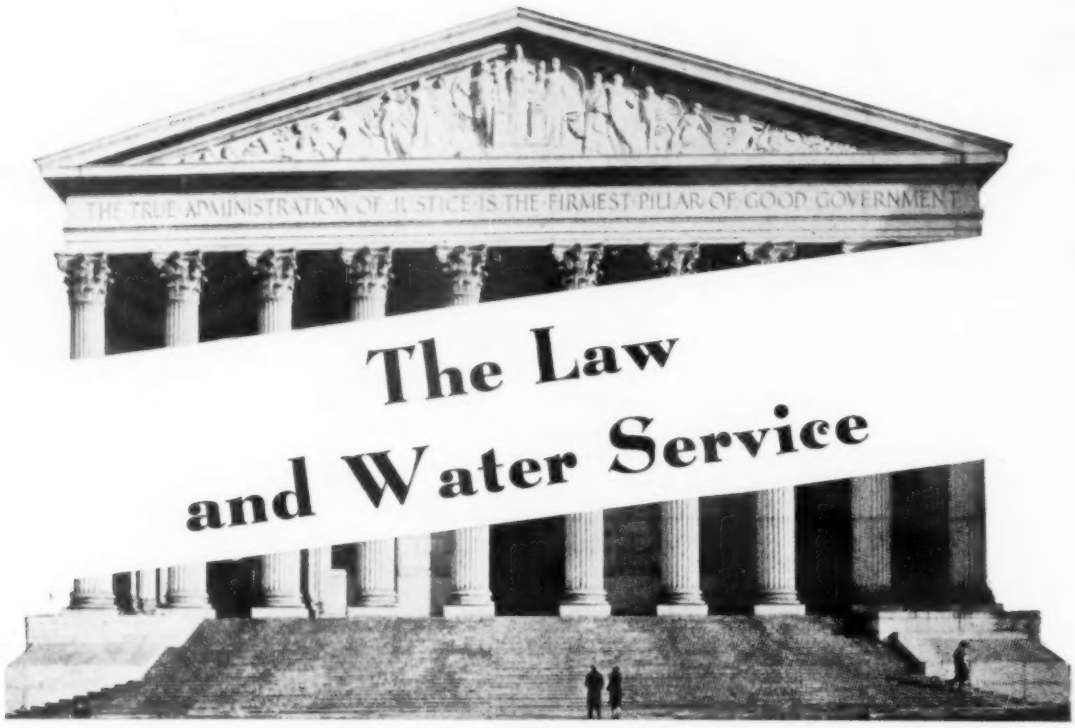
the darkest night, they are clearly visible by automobile head lights.

Following are examples of named streets of Salt Lake City and their corresponding numbers:

Ashton Avenue	2340 South Street
Roosevelt Avenue	1460 South Street
Beaumont Court	525 West Street

The reader can easily understand how any one of these streets, or any other street in Salt Lake City, can be found when its "corresponding number" is given. A pamphlet is now being prepared which will contain all the named streets in Salt Lake City and in Salt Lake County and their corresponding numbers. With this pamphlet, even from the house numbers, and before the new street signs have been put in place, any traveler in Salt Lake City will be able to "find any address without a map or other help."

A recent experience will explain how this can be done. The writer was located at "150 North Hicks Street" in Los Angeles. From the house numbers he figured very easily that "Hicks Street" would be "3600 East Street" if the new street-numbering system were applied in that city. The writer told a friend who was coming to see him to come to "3600 East Street," which he could find by observing the numbers on the houses; and that having thus found "Hicks Street" he could very readily find the number "150 North" on that street. The friend came to the proper place at once "without a map or other help." It took the Assistant City Engineer of Los Angeles a good while to find, by use of both his index of streets and his city map, where Hicks Street is located.



The Law and Water Service

When Is a Water Department Liable? What Constitutes Negligence? What Service Is It Bound to Render?

By M. S. CAMPBELL
Chief
Washington State Department of Health

THERE are two basic legal principles interpreting the responsibility of a water utility to the consumers that it serves. O. C. Peterson, Attorney for the League of Minnesota Municipalities, described these two principles aptly at a recent meeting of the Minnesota Section of the A.W.W.A. He defined the first as a "governmental function" and the second as "proprietary."

To describe the first, one may say that a municipality performing a duty for the general public good and receiving no benefit therefrom is performing a governmental function. The utility derives no direct benefit, and the courts rule that no liability can be affixed to its performance. The providing of fire protection is an example.

Obviously, claims for damage are concerned solely with functions covered by the proprietary duty. Frank A. Marston of Metcalf and Eddy, Boston, Mass., outlined these causes at the 1940 Kansas City convention of the A.W.W.A. He noted the following causes:

Leakage of water from the distribution system

Water of quality injurious to health

Water injurious to industrial processes

Structural defects in the system

Lack of water or water pressure

Methods of construction contrary to generally accepted methods

Careless work during construction

Negligence in operating and maintaining water works

Hazardous conditions on users' premises

Leakage from the Distribution System

To prove negligence when a break in a water pipe has caused damage, the party making the complaint generally bases his action on one of these arguments: (1) violation of generally accepted methods of design, materials, or construction methods; (2) failure to protect pipe that is knowingly being subjected to stress because of work done by others; (3) failure to anticipate breaks that are virtually certain to occur and can be anticipated from similar defects occurring in the locality under corresponding conditions; (4) failure to shut off the water promptly and repair the damage; (5) neglect in keeping sufficient records regarding the location of valves and similar equipment.

As an example, a municipality in Massachusetts supplying water was held responsible for a leak that rendered a standpipe empty, thus depriving the service pipes of pressure. In the court's opinion, diligence was not exercised in discovering the leak and starting the pumps (Watson v. Inhabitants of Needham, Mass.; 37 N. E. 204, 161 Mass. 404). In Minnesota the fact that water escapes from a pipe or reser-

evir seems to be sufficient, and it is not necessary to prove negligence (Bridgeman-Russell Co. v. City of Duluth; 197 N. W. 971).

Water of Quality Injurious to Health

The courts have consistently held that water-works operators are responsible for the quality of the water delivered to consumers. It is a well-established fact that while a water supply may be pure at its source, it may become contaminated in the distribution system as a result of a cross-connection with an impure supply. Contamination of water delivered to consumers as a result of a cross-connection renders the water authority liable for damages.

One of the classical cases of liability because of contamination resulting from a cross-connection in the distribution system occurred in a Washington city, with the result that the plantiff was awarded damages against the municipality to the extent of $60,000. Furthermore, in this case, the court made clear its attitude relative to the maintenance of appurtenances designed for the prevention of cross-connections when it stated, "There is evidence that the city never inspected the valve in the by-pass from the date of its installation" (Roscoe v. City of Everett, Wash.; 239 Pac. 831).

Water of Quality Injurious to Industrial Processing

The water authority may be held liable for damages when sediment has been stirred up in the distribution system during flushing operations, resulting in damage in laundries and industrial plants. Again negligence must be proved. In the case of changes in quality resulting from fire flows, the water authority would probably not be liable.

Structural Defects

Cases commonly included in this classification result from injuries sustained in falling over projecting curb boxes, metal boxes, gate boxes, manhole covers, and other appurtenances. In affixing liability, the courts make an effort to determine who has control over the item causing the damage.

The court held an Indiana water utility liable when a person tripped over a projecting curb box and suffered injuries. It considered that the water company had control of the line and curb box because the company refused service unless the lines were installed by an approved bonded plumber, and also because the company retained the right to maintain or replace the service line between the main and the property line (Indianapolis Water Co., v. Schoenemann; 20 N. E. (2d) 671).

In line with this, a Texas court ruled that the water company was not liable for injuries to a pedestrian resulting from a defective curb box because the box had been installed by a private party with the consent of the water consumer and the water company exercised no control whatever over the installation (Neal v. San Antonio Water Supply Co.; 218 S.W. 35).

Lack of Water or Water Pressure for Fire Fighting

It seems that usually the courts do not hold the utilities liable on this point. The case of Allen & Curry Mfg. Co., v. Shreveport Water Works Co.; 113 La. 1091, is typical. If we interpret the court's opinion correctly, the income received for water service is not adequate to cover the possibility of a law suit following every fine. However, in the case of the Paducah Lumber Co., v. Paducah Water Supply Co. (89 Ky. 340), and Gorrell v. Greensboro Water Supply Co. (124 N. Car. 328), the courts have held the opposite viewpont and have considered the utility liable if the suppy was not adequate for fire protection.

Carelessness during Construction

There are several court decisions indicating that the water department, because of careless work during construction, may be held liable. A New Jersey court granted damages to the plaintiff as a result of injuries suffered because a meter pit was left uncovered by workmen (Walsh v. Hackensack Water Co.; 181 A. 422).

In a California case, a passerby lost an eye when a piece of steel broke off a tool which was being used by employees of a water district, and the district was held liable for damages (Conner v. East Bay Municipal Utility District, 8 Cal. App. 613).

Negligence in Operation and Maintenance

In New York the water pressure was increased in a 47-year-old main. The original pressure was 25 lbs. per sq. in. When the pressure in the main was increased 10 lbs. per sq. in., two breaks occurred in pipes in the neighborhood; then when the pressure was increased an additional 10 lbs. per sq. in., the break which brought about the litigation occurred. In rendering its decision the court stated, "Here no question of notice or knowledge is involved, it being apparent that all the facts were known to, and the situation perfectly realized by, the appropriate city authorities." The city was held liable for damages (Harriet Haas v. City of New York, appellate division of the Supreme Court 176 N.Y.S. 433).

In Massachusetts a property owner collected damages resulting from a flooded cellar because it

(Concluded on page 93)

Keep These Principles in Mind

Modern court decisions covering water service can be summarized by the following conclusions that every operator should remember:

1. **A municipality engaging in the distribution of water loses its sovereign immunity and is therefore subject to liability claims**
2. **In order to collect damages from a water company it must be shown, in most instances, that the water company was negligent**
3. **The delivering of water to a consumer implies that the water is pure and potable**

Planners In Embryo

By Charles B. Bennett
Director of Planning, Los Angeles, California

DR. REMSEN BIRD, President of Occidental College, and a member of the Los Angeles City Planning Commission, has long been a staunch believer in, and supporter of, planning as a medium through which we can gain control over sinful practices in urban development and reshape present outmoded areas of the community so that the standards of living will rise to a decent level. Unlike many planning enthusiasts, Dr. Bird's interest extends beyond the "lip service" stage and for the last semester at Occidental College, beginning in February of this year, he prevailed upon William H. Schuchardt, Vice-President of the Los Angeles City Planning Commission, to deliver a series of lectures on "Adventures in Citizenship."

As was expected, Mr. Schuchardt, who has been identified with the planning movement for many years, both in Milwaukee and Los Angeles, wove the pattern of his lectures around planning.

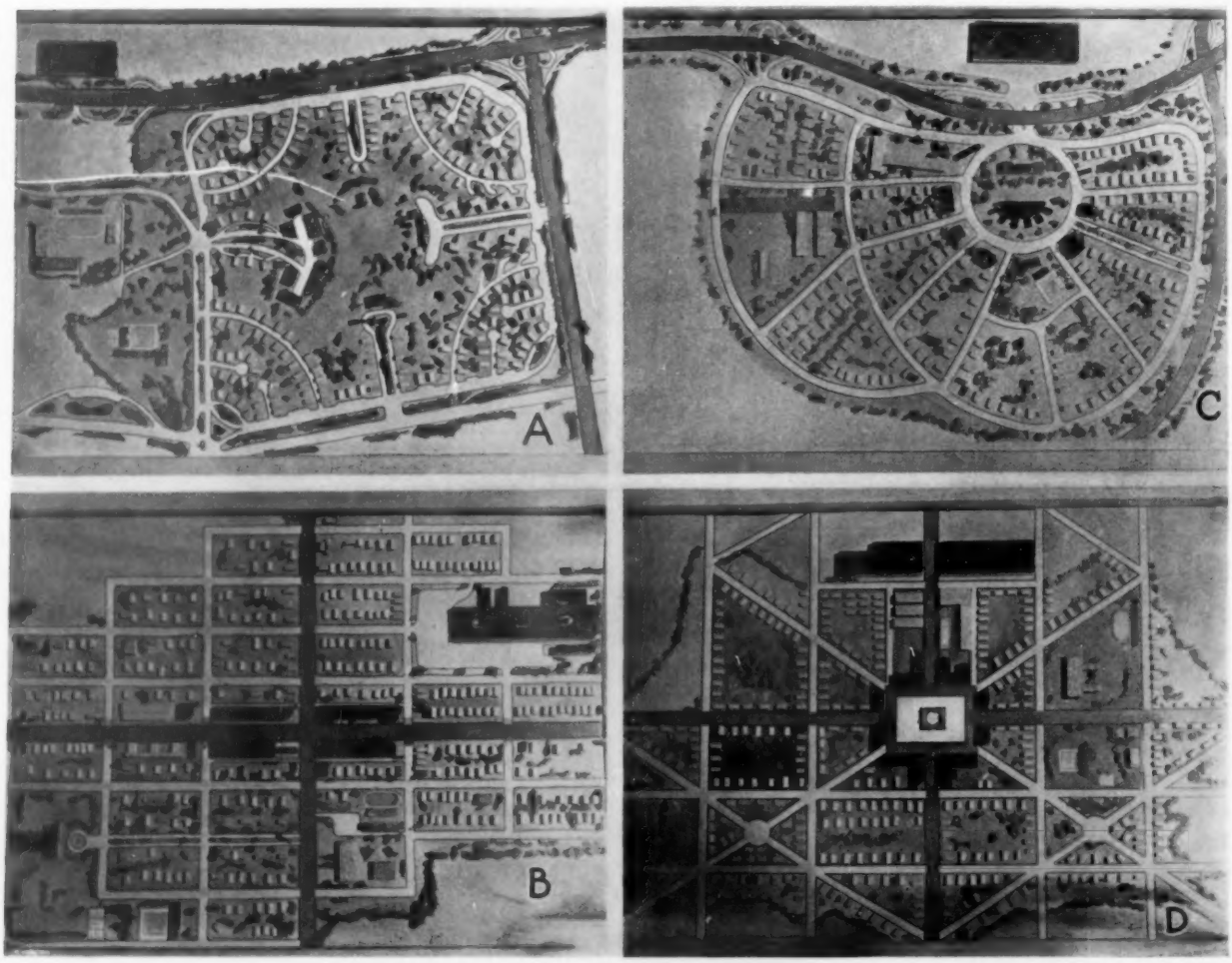
While class attendance was not large, at least two members, John R. Badgley and Frank Jones, liberal arts students, displayed an unusual interest in, and intelligent understanding of, the principles and techniques of good planning. These two students, on their own initiative, prepared models of four types of communities together with a questionnaire test designed to measure the evaluation by tomorrow's citizens of the fundamentals of modern community planning, incorporating social, aesthetic, and utilitarian concepts.

The Questionnaire Test

The test was composed of 25 questions divided into 5 groups. Each group related to a particular phase of modern community design. The questions were answered from observation of four models of typical community plans designated by the letters A, B, C, and D. The questions were stated in such a way that they might be answered by placing in a blank the letter representing that model which, in the opinion of the student, best answered the question. Thus there were four possible answers for each question.

Aesthetics:

1. Which community presents the most symmetrical view from an airplane?
2. Which community is the most compact unit?



MODELS USED FOR THE QUESTIONNAIRE TEST

These models were colored to distinguish: through highways; streets and parking areas; landscaped areas; agricultural or undeveloped areas; commercial and shopping areas; civic buildings (city hall, fire and police, hospitals, auditoriums); industrial buildings; recreation; educational buildings, schools; churches; multiple dwellings; and single residences

Utility:

1. Assuming delivery service, which shopping center best serves the community?
2. Assuming that most of the inhabitants work in the factories, in which community is the factory most conveniently located?
3. In which community is the high school most conveniently located?
4. Which community would be most free from traffic and industrial noises?
5. In which community are civic buildings most advantageously located?

Traffic:

1. Which community offers the greatest inconvenience to the through highway traveler?
2. Which community offers quickest and safest entry into through highways?
3. Which community offers the least traffic congestion to shoppers in the business area?
4. Which community offers the best facilities for industrial traffic?
5. In which community is it easiest to control traffic?

Safety:

1. In which community are traffic intersections most dangerous?
2. Which community is safest for the pedestrian?
3. In which community would fire be easiest to control?
4. Which community is best planned for the safety of small children?
5. Which is the safest community?

Social Aspects:

1. Which community has the greatest potential slum areas?
2. Which community would be least susceptible to crime?
3. In which community could leisure time be more enjoyably spent?
4. In which community would tax rates be highest?
5. In which community would class distinction probably exist?

General:

In which community would you rather live?

The test was given not only to students at Occidental, but to planning department staff members, local architects interested in planning, and others as well. It is surprising how opinions of technicians vary on some of the questions. However, generally there is unanimous agreement on the value of planned design for good living as exemplified in two of the models.

Safety Building Serves Several City Departments

IN 1940, the City Council of Eau Claire, Wisc., purchased a site for a central fire station in the block where the city hall and library are located.

However, the old police station had become inadequate so that it was going to require enlarging, and office space was needed for the newly combined public health units of the city and county. Considering these demands, the City Council decided to erect not just a central fire station, but a new "Safety Building" to house the fire, police, and health units of the city as well as the Family Service and Visiting Nurse Associations. The topography of the site purchased was such that working space and entrances to the building could be arranged for complete separation of the various units.

The building, now almost completed, has two floors and a basement. The fire station is located in the east end of the building on the first and second floors. On the ground floor are the fire chief's office, signal rooms, hose-drying tower, toilet, and apparatus room. The apparatus room, containing space for the chief's car, ladder and aerial trucks, and hose, faces east onto an almost level street and provides quick access to main streets leading to any part of the city. On the second floor are a dormitory, small kitchen, dinette, showers, lockers, and lounge room for the firemen. In the basement below the fire station is a municipal garage, a general storage space of approximately 84 x 56 feet, and a separate room for signal apparatus, batteries, etc.

In the west ell of the building, the basement, which is practically all above the grade of the sidewalk, houses the new police station. Occupying 3,200 square feet, the station contains a squad room, a radio room, a desk sergeant's room, the chief's office, two detectives' rooms, a 9-cell main detention room, separate rooms for juvenile detention, and an office for a police matron. In this end of the building, on the ground floor above the police station, the space for the city and county health units is divided into rooms for the health director, food inspector, statistician, sanitary inspector, supervising nurse, and assisting nurses. One of the rooms is large enough to be used for health clinics. On the second floor are the Family Service Administration, Red Cross, and Visiting Nurse Association.

Foundation walls up to the first floor slab, floor slabs, and roof of the safety building are of reinforced concrete. Face brick forms the exterior walls above the first floor. The interior walls of the first floor of the fire department, of the rooms of the police station up to a seven-foot height, and of the corridors of the office portion of the building are of glazed tile. The rest of the walls and ceilings are plastered. All doors are set in metal frames, and windows are steel sash and frame.

The excavation work and the forming and placing of concrete in the foundation and for the first floor slab were done by WPA labor. Heating and plumbing installations, as well as construction of the superstructure and of all interior partitions, were let to local contractors. Plans for the building were prepared by A. R. Garnock, City Engineer—who also directed the work—and Howard Nelson, Architect.

It was decided, after careful study, to install a single central heating plant in the safety building which would also serve the city hall and municipal library. It is estimated that the saving will pay for the cost of the new installation in approximately 15 years' time.

Probable cost of building:

Site		$16,000.00
Federal Aid:		
Labor by WPA	$7,794.05	
Non-labor Contribution by WPA	2,277.32	
		10,071.37
Contributions to WPA Project by City		
Labor	4,178.97	
Material	5,768.56	
Equipment	1,220.00	
Architect and Engineer Fees	2,679.01	
		13,846.54
Central Heating Plant		12,931.00
Plumbing		7,442.00
Heating and Ventilation		12,047.00
General Contract		65,002.00
Electric Work and Lighting		3,507.00
Known Costs		140,846.91
Estimated Cost To Complete Grading, Outside Walks, etc.		2,153.09
Probable Cost, Not Including Furnishings		$143,000.00

G. DONALD BARNES,
Mayor.

Keeping Electric Motors Operating

Maintenance has become a wartime responsibility. Municipal plant operators, always careful in the upkeep of their electric motors, now must redouble their maintenance efforts "for the duration"

By O. F. Vea
Motor Division
General Electric Co.

PRESENT - DAY conditions make it necessary that all electric motors be babied. Maintenance programs must be intensified to prevent breakdowns. Municipal plant operators, of all people, know how quickly the complaints come ringing in during a slight interruption of service. Previously, interruptions in service caused only inconvenience. Now a breakdown may mean failure in the supply of water or power to a vital industry with the subsequent loss of production that cannot be reclaimed.

Selection and Installation

A real maintenance program begins with selection. Motors must be chosen that are properly rated and protected for their work. In addition, the environment in which the motor is to operate should be considered, as this determines whether an open motor or some form of enclosed motor should be used, and how the motor should be located with respect to the driven load.

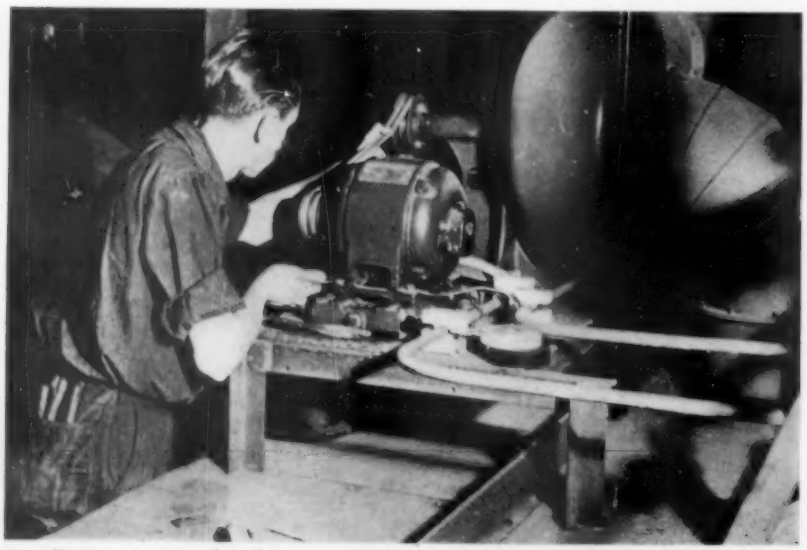
The next point to be considered is installation. The motor should be located in such a way that it is accessible for inspection and repairs, in a place free from adverse conditions and with ample ventilation so that heat losses will be carried away.

No standard motor should be installed where the normal temperature rise is more than 40° C. A motor should have a solid foundation free from vibration. The drive should be aligned carefully, whether it is connected directly or belted, allowing a reasonable amount of rotor end-play.

Connecting the Motor

All electrical connections to a motor should be made tight enough so that the vibration of the equipment will not loosen them. Wires jointed in a conduit box should be either twisted together or soldered or bolted together. These joints should be wrapped first with rubber tape and then with friction tape.

Wires issuing from a conduit box, especially rubber-covered extension cords, should be held in some way so that there is no strain on the connections themselves. Usually a knot in the wire inside the conduit box, or the use of conduit-box fittings that grip the wire where it leaves the box, are the most convenient ways to obtain this strain relief.



Install your motors so that they are accessible for inspection and repairs. Take particular care to align them properly with the driven load

Inspection Schedule

A formal and well-integrated inspection schedule should be a part of the maintenance program of every plant. Inspection schedules should cover both a-c and d-c motors and be based on particular plant conditions in so far as duty and dirt are concerned.

Once each week the operator should examine the commutator and brushes; check the oil level in the bearings and see that the oil rings turn with the shaft; examine the starter, switch, fuses, and other controls; and start the motor to see that it is brought to speed in normal time.

Every six months the motor should be cleaned thoroughly; the oil should be renewed; the operating speed should be checked; the connections on the motor and controls should be inspected, the motor should be run, and the drive examined for smooth running, absence of vibration, worn gears, chains, or belts. There should be an annual inspection to clean out and renew the grease in the ball- or roller-bearing housings, and to test the insulation; to check the air gap; to check clearance between shaft and journal boxes of sleeve-bearing motors. Competent maintenance men will have a record card for every motor in the plant. All repair work with its cost and every inspec-

tion can be entered upon this record.

Lubrication

The bearings of modern motors, whether sleeve, ball, or roller, require only very infrequent attention.

If oil or grease is copiously and frequently applied to the outside as well as the inside of bearing housings, some of the excess lubricant will be carried into the machine and lodge on the windings where it will catch dirt and thereby hasten ultimate failure.

If the proper amount of a suitable lubricant is applied before starting, there should be no need to refill the housings for several months, even in dusty places.

Ball-bearing motors require particular care in lubrication. Only a high-grade grease should be used, meeting exacting specifications. Some are equipped with pressure-gun fittings and some are not. Cleaning the bearings also deserves rigorous attention. Manufacturer's instructions should be rigorously adhered to both in regard to the type of grease and detailed methods of greasing.

Drying Insulation

Since machines may "sweat" as a result of differences in temperature, they should be kept warm at all times to prevent this condition.

Current at a low voltage can be passed through the windings, electric heaters can be used, or even steam pipes can be utilized for protective purposes. In the case of extended idle periods, tarpaulins may be stretched over the motor and a small heater put inside to maintain the proper temperature. A thermometer should be used to make certain that temperature stays below 90° C.

Cleaning Motors

For the weekly cleaning, the motor should be blown out with dry, compressed air (about 25 to 30 lb. per sq. in. pressure). When abrasive dusts are present, even lower pressure may be necessary, and suction is to be preferred, as damage can easily be caused by blowing the dust and metal chips into the insulation. On larger d-c machines, the air ducts should be blown out so that the ventilating air can pass through as intended.

Here is a suggested record card that should be useful for all competent maintenance men. This view shows both front and back sides and gives the operator all servicing and repairs

In cleaning a motor, the heavy dirt and grease should first be removed with a stiff brush, wooden or fiber scrapers, and cloths. Rifle-cleaning brushes can be used in the air ducts. Dry dust and dirt may be blown off, using dry compressed air at moderate pressure. Care must be taken to direct the air so that dust will not be pocketed in the various corners.

Grease, oil, and stick dirt are easily removed by applying cleaning liquids like carbon tetrachloride, gasoline, or naphtha. There are several good methods of applying the cleansing liquid. Probably the best method is to spray it on. Care must be taken not to soak the insulation by dipping coils or small motors into the liquid.

Although the insulation will dry quickly at ordinary room temperature after cleaning, it is highly desirable to heat it to drive off all moisture before applying varnish. If the motor can be spared from service long enough, the insulation should be dried out by heating to from 90° to 100° C. If the machine cannot be sent to a service shop for application of insulation varnish, fairly good results will be obtained by applying one of the quick-drying black or clear varnishes which dry in a few hours at ordinary room temperatures.

General Overhauling

Motors should be given an overhauling at intervals of five years or so normally or, if the service is more severe, more frequently. Such a practice is beneficial in avoiding breakdowns and in extending the useful life of the equipment.

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Race Equality a War Issue

"RACE equality has become a war issue. It is possible that the hope of victory may turn upon it," write Earl Brown and George R. Leighton in a new Public Affairs Pamphlet, "The Negro and the War."*

Propaganda from enemy sources brings forcibly to mind the fact that the Negro is an American citizen but that he has fewer rights than the white citizen—that the Negro is drafted for army service, but is not adequately protected when he seeks recreation on his leaves and furloughs—that the Negro is urged to back the fight to beat Hitler, yet is shut out of many jobs in government and in war industries.

Some things, the authors point out, are being done. The Negroes won their right to move into the Sojourner Truth housing project in Detroit. Negro troops have better food, clothing, and sleeping quarters than in World War I. Illiterate Negro draftees from the South are getting their first chance to learn to read and write.

But discrimination and prejudice are still prevalent to an alarming degree in many sections, and progress to date has been on a small scale. One of the serious results, in the war industries, is the danger of a dislocated labor market, with intensified labor shortages and unnecessary migration in areas where much Negro labor is available.

The pamphlet concludes: "A remarkable opportunity now exists to break the barriers and see that the Negroes receive *what is fair*, their rights. Men and women want to be free, and the sight of one part of our people getting more freedom can only strengthen the determination to win more freedom for all."

* See page 113 of this issue.

Louisville, Ky., Consolidates City and County Health Work

Coordination of City and County Health Activities Results in National Recognition

By WILLIAM A. STOLL
Vice-Chairman, Louisville and Jefferson County Health Board
Louisville, Ky.

WHEN a plaque was presented to the Louisville Board of Trade on April 29 at the forty-second annual convention of the Chamber of Commerce of the United States in Chicago, in recognition of outstanding achievements of Louisville's public health service in 1941, no phase of the city's accomplishments during the past year attracted more attention than the consolidation of City and County Health Departments.

It may be noted parenthetically that other advances in health conservation also figured in the award and that recognition in this field of public service is not wholly a new experience for Louisville. However, this consolidation of effort and general efficiency of work performed, mark the most concrete advance in our health program. It is an acknowledgement of the fact that thorough health work cannot be accomplished in a municipality without recognition of the part that the suburban area plays. No city can maintain a high standard of health when surrounded by unhealthful conditions in the rural areas.

High Health Standard

In the inter-city health conservation contest in the year 1937, Louisville was rated along with Providence, R. I., first among American cities of from 250,000 to 500,000 in excellence of public health work. Its 1938 and 1939 health activities again won it honorable mention from the National Chamber, and it enhanced the 1939 citation by winning first honors among all American cities in character and extent of measures taken for syphilis control.

The primary purpose of the Louisville - Jefferson County consolidation was maintenance and improvement of health services in the urban community on the Kentucky side of the Ohio River without regard to artificial boundaries between Louisville and Jefferson County. This was to meet the needs of normal growth and special conditions in the city resulting from the war boom. Growth of population in the metropolitan community as a consequence of an influx of defense workers and their families and mobilization of 60,000 service men at nearby Fort Knox, Bowman Field, and the Jeffersonville U. S. Quartermaster Depot had created special problems. In addition to the soldiers stationed in the Louisville area there are now, according to the May sugar census, 496,000 residents of the metropolitan area, a growth of 45,000 population; 33,000 of the increase in Jefferson County in the past two years.

PHOTO FROM LOUISVILLE COURIER-JOURNAL

Dr. Hugh R. Leavell, Director of Health, and the Louisville Board of Health examine the plaque given them by the United States Chamber of Commerce in recognition of this city's outstanding public health service. Shown left to right: James T. Howington, William A. Stoll, Wilson W. Wyatt, Mayor, Dr. Hugh R. Leavell, Director, Judge Mark Beauchamp, Dr. M. J. Henry, and Dr. W. Barnett Owen, Chairman of the Board. Dr. Lee Palmer is not shown, having recently been called into military service

Consolidation Considered Previously

Louisville had considered a consolidation of municipal and county governmental agencies — especially health facilities — at various times for almost two decades. A merger of health boards was recommended as far back as 1924 by Dr. Haven Emerson in a survey of local facilities, and again in 1935 by Dr. Carl Buck. It was recommended

by a special health committee which reported to Mayor Joseph D. Scholtz who preceded the present encumbent, Mayor Wyatt, but no action followed.

Immediately after Mayor Wyatt's election last year, he and Judge Beauchamp, chairman of the Jefferson County Commisison, jointly named a committee to formulate a legislative program for the city and county for submission at the ensuing session of the Kentucky General Assembly. Amalgamation of City and County Health Departments was a major goal of that program.

Large urban communities traditionally have difficulties in securing passage of local government programs in state assemblies dominated by rural representatives. However, Mayor Wyatt, who piloted the municipal bills throughout the session, and the Assembly had established a previous entente cordiale and as the consolidation applied only to counties containing a "first-class city"—Louisville being Kentucky's only first-class city under definition of the statutes—the bill went through both houses by large majorities.

Opposition

Up to the time of its passage, only one feature of the enabling act incurred opposition. That provided for the Louisville City Hospital and the Waverly Hills Tuberculosis Sanatorium, the latter operated by the Board of Tuberculosis Hospital, a joint city and county group, to pass under the supervision of the new city and county board. Certain citizens, while declaring that they favored the principle of consolidation, recommended that "supervision of the tuberculosis sanatorium be deferred until it could be demonstrated that the detailed attention required by the tuberculosis sanatorium would not be interfered with by the many other duties of the city-county health authority." However, the bill was enacted as originally proposed with both institutions passing under control of the new board, the City Hospital's name being changed to that of The General Hospital. An emergency clause made the consolidation effective as of the date of the signature by Governor Keen Johnson.

Provisions of Merger

Under the provisions of the merger act, five governing members of the new Louisville and Jefferson County Health Department are named by the County Judge and the Mayor jointly, with these two officials acting as ex-officio members. Members of the board chosen were: W. Barnett Owen, a physician, chairman; the writer, president of the Louisville Board of Trade, vice chairman; M. J. Henry, physician; James T. Howington, member of the War Production Board; Lee Palmer, physician. Members of the Board (except for ex-officio members) serve for three-year terms, receiving $10 per meeting, but not more than $250 in any fiscal year.

Finances for operation of the board are provided jointly by the city and county, with a minimum annual appropriation of $250,000 from the county, and $750,000 from the city. No indebtedness must be incurred in excess of anticipated revenue. The Board of Education in the city and county may contribute to the support of the board in payment for school health services rendered. Provision is made for a reduction in the minimum tax levy by either the city or county should one or the other have an unexpectedly high revenue in any year, or should considerable amounts of money be available to the Board of Health from other sources.

Powers of the Board

The board must keep adequate financial records. It may, if it so desires, elect to have this function performed by the Finance Department of the city without compensation. Auditing by the city, county, and state is provided. Needed property may be condemned by the board, through proceedings similar to the condemnation of property for park purposes.

Under its authorized powers, the board has named Dr. Hugh R.

Children's health plays an important part in the program at Louisville. Above are four views of work being performed at two of the Louisville health clinics

Leavell Director of Health. Dr. Leavell is a graduate of the University of Virginia, the Harvard Medical School, and the Yale School of Public Health. Following his appointment as Director of the City Department of Health in 1934 by Neville Miller, then Mayor, he served in the same capacity under Mayor Miller's two successors.

It was under Dr. Leavell's administration of the City Department of Health that all the honors received by Louisville for health conservation services in the intercity competitions of the Chamber of Commerce of the United States were achieved. He had been an advocate of consolidation since he came into the municipal health service.

Health Advances

Indicating the type of advance in health services that Louisville has made, a few of the 1941 achievements upon which the U. S. Chamber award was based may be named.

1. Secured a complete sanitary survey of the city.

2. Provided for land-fill method of garbage disposal.

3. Established Louisville Health Center for whites with headquarters at Clarksdale Housing project; Central Health Center for Negroes at Beecher Terrace Housing Project, providing equipment from Rosenwald Fund benefaction.

4. Secured 100 per cent pasteurization of milk supply.

5. Established regional tuberculosis training course for Negro social workers, nurses, and doctors.

6. Organized Health Division within the Louisville Defense Council.

7. Worked out epidemological case-finding procedure for venereal disease control with military authorities.

8. Instituted intensive program on nutrition education.

9. Inaugurated an industrial hygiene program.

10. Arranged for military service selectees to be given chest X-ray and blood test for syphilis from the start of the Selective Service system.

Building Regulations in Ancient Babylon

"MODERN Building Inspection," the new building inspector's handbook,* devotes its introductory chapter to an interesting history of building regulations, by George N. Thompson of the National Bureau of Standards. Here are some of the opening paragraphs:

"From the time when he skulked in caves or erected rude tents to keep out the weather, man has always had to adopt some compromise between what was ideally suited for his shelter and what he could supply in view of the other demands made upon him. It is this ceaseless process of adjustment that underlies the making of building regulations today, a process in which we have succeeded measurably in pushing back the boundaries of technical ignorance. It is, however, one in which a balance still has to be struck between that which is ideal and that which represents a reasonable adaptation to the social and economic environment in which we live.

"Groping back into history, we can find very definite and authentic requirements at least two thousand years before Christ. We know from translations of clay tablets made in the populous and thriving city of Babylon that King Hammurabi dealt with such matters with the harshness of an Oriental despot. The following sections taken from his code may well have influenced builders of his time to look to their handiwork.

"229. *If a builder has built a house for a man and his work is not strong, and if the house he has built falls in and kills the householder, that builder shall be slain.*

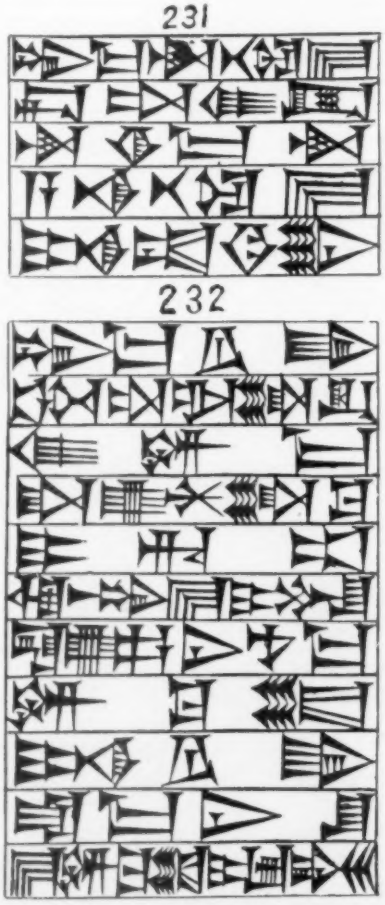
"230. *If the child of the householder be killed, the child of that builder shall be slain.*

"231. *If the slave of the householder be killed, he shall give slave for slave to the householder.*

"232. *If goods have been destroyed, he shall replace all that has been destroyed; and because the house that he built was not made strong, and it has fallen in, he shall restore the fallen house out of his own material.*

"233. *If a builder has built a house for a man, and his work is not done properly and a wall shifts, then that builder shall make that wall good with his own silver.*

"Hammurabi presided over a city where building conditions were ripe for regulation. It possessed a large population and extended over a wide area, estimated by the not-always-reliable Herodotus to be about 225 square miles. The fashioning of timber and the laying of brick had passed beyond crude experimental stages and were established arts in the creation of fixed habitations. The presence of a large number of people created those contacts of neighbor with neighbor that sooner or later in all urban communities require the laying down of rules of conduct. We do not know whether the growing of fig trees on the roofs, a common custom, created questions regarding live and dead loads, but we do know that all the essential problems were present that exist today when building regulations become a necessary feature of daily life."



King Hammurabi's Building Code—Sections 231 and 232

* See page 85 of the August issue.

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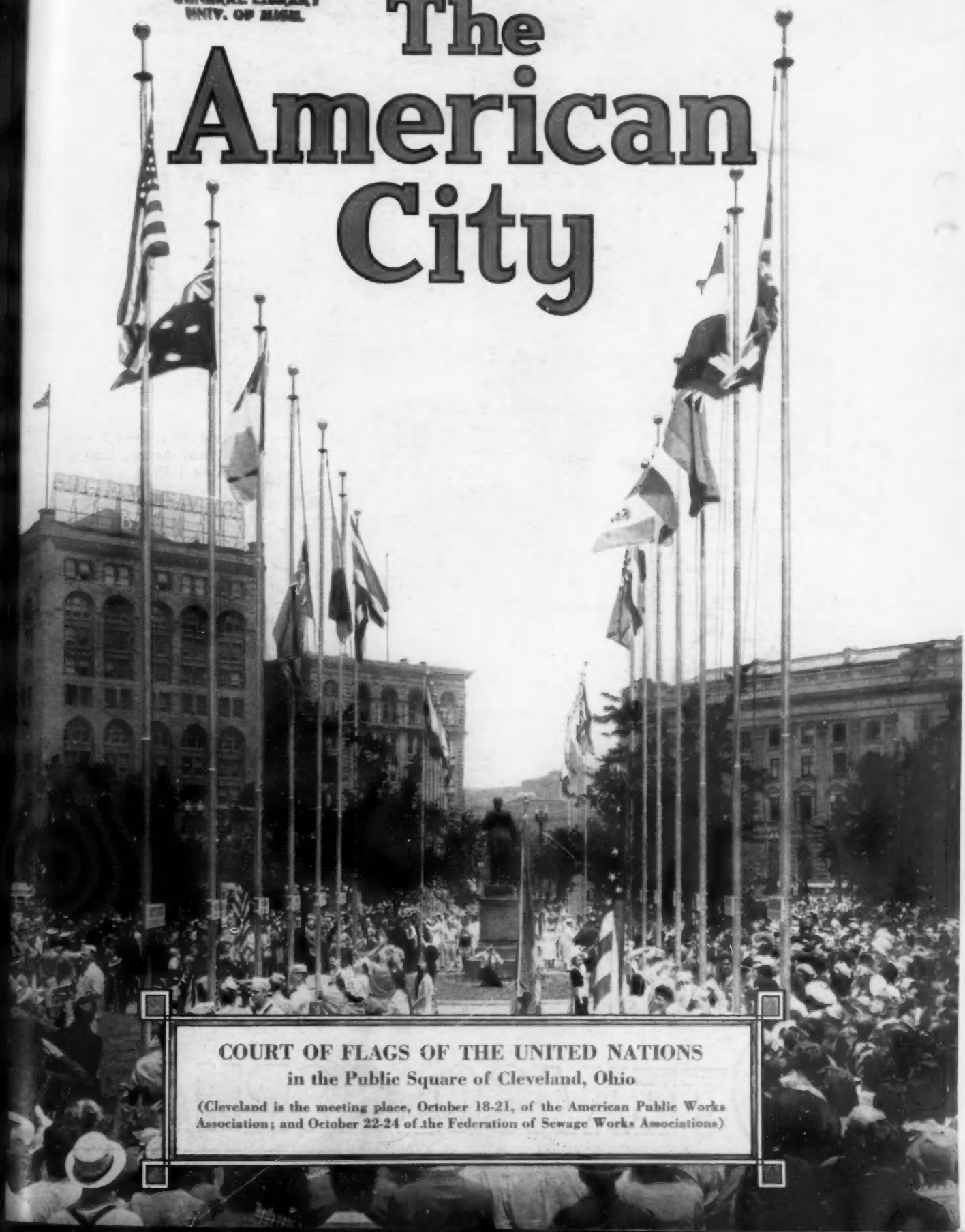
OCTOBER, 1942

PERIODICAL ROOM
GENERAL LIBRARY
UNIV. OF MICH.

The American City



COURT OF FLAGS OF THE UNITED NATIONS
in the Public Square of Cleveland, Ohio

(Cleveland is the meeting place, October 18-21, of the American Public Works Association; and October 22-24 of the Federation of Sewage Works Associations)